DOCUMENT RESUME

ED 112 890 IR 002 601

AUTHOR Papetti, Clarence J.; And Others
TITLE Instructor Training. Focus on the Trained Man. TAEG Report No. 17. Final Report.
INSTITUTION Naval Training Equipment Center, Orlando, Fla. Training Analysis and Evaluation Group.
REPORT NO TAEG-17
PUB DATE Jun 75
NOTE 115p.

EDRS PRICE MF-$0.76 HC-$5.70 Plus Postage
DESCRIPTORS Cost Effectiveness; Educational Development; Effective Teaching; Higher Education; *Instructional Staff; *Instructional Systems; *Military Training; Staff Orientation; *Teacher Education; Teacher Education Curriculum; Teacher Educators; *Teacher Evaluation; Teacher Improvement; Teacher Programs; Teaching Guides; Teaching Methods; Trainers

ABSTRACT

The current Navy instructor-training system is analyzed and recommendations made for the 1975-85 period. Six formal instructor-training schools are discussed. Included in the analysis are instructor selection and assignment, Instructor Training School staff, instructor training curriculum, instructor evaluation, instructor effectiveness, instructor feedback, course grading, career structure, cost effectiveness of Instructor Training School centralization. (Author/SK)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

TAEG

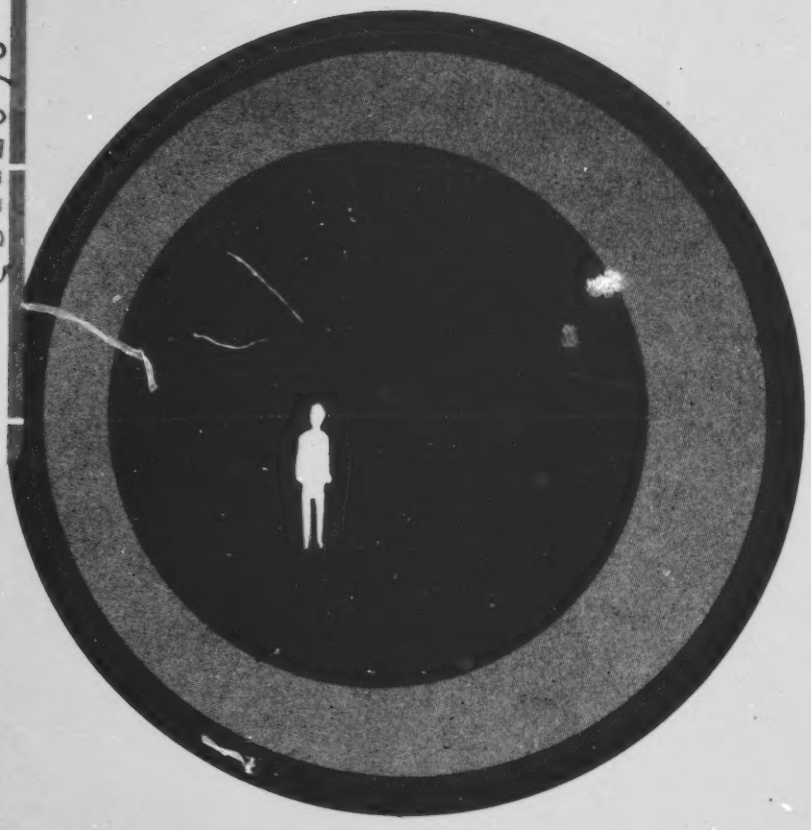
TRAINING ANALYSIS AND EVALUATION GROUP

TAEG REPORT NO. 17

INSTRUCTOR TRAINING

ED112890

IR002 601



FOCUS ON THE TRAINED MAN

APPROVED FOR PUBLIC RELEASE;
DISTRIBUTION IS UNLIMITED

2

JUNE 1975

TRAINING ANALYSIS AND EVALUATION GROUP
ORLANDO, FLORIDA 32813

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)	2a. REPORT SECURITY CLASSIFICATION
Training Analysis and Evaluation Group Orlando, Florida 32813	U
	2b. GROUP

3. REPORT TITLE

INSTRUCTOR TRAINING

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Final Report

5. AUTHOR(S) (First name, middle initial, last name)

Clarence J. Papetti, Karen D. Lam ,and William M. Swope, Ph.D.

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
June 1975	119	34

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO.	TAEG Report No. 17
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

10. DISTRIBUTION STATEMENT

Approved for public release; distribution is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY

13. ABSTRACT

This report presents an analysis of the current Navy instructor training system and makes recommendations for the instructor training program of the 1975-85 period. Analysis and recommendations are limited to the six formal instructor training schools under the direct curriculum jurisdiction of CNTECHTRA. Included in the report are discussions and recommendations in the areas of: instructor selection and assignment, Instructor Training School staff, instructor training curriculum, instructor evaluation, instructor effectiveness, instructor feedback, instructor course grading, instructor career structure, and cost effectiveness of Instructor Training School centralization.

DD FORM 1 NOV 65 1473 (PAGE 1)

S/N 0102-014-6600

Unclassified

Security Classification

14 KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Instructor Training						
Instructor Feedback						
Instructor Selection						
Instructor Training Curriculum						
Instructor Training Schools Centralization						
Instructor Training Requirements						
Instructor Training Schools Staff						
Instructor Effectiveness						
Instructor Evaluation						
Instructor Career Structure						

TAEG Report No. 17

INSTRUCTOR TRAINING

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Clarence J. Papetti
Karen D. Lam
William M. Swope, Ph.D.

Training Analysis and Evaluation Group

June 1975

GOVERNMENT RIGHTS IN DATA STATEMENT

Reproduction of this publication in whole or in part is permitted for any purpose of the United States Government.

Alfred F. Smode

ALFRED F. SMODE, Ph.D., Director,
Training Analysis and Evaluation Group

B. G. STONE, CAPT, USN
Assistant Chief of Staff
Research and Program Development
Chief of Naval Education and Training

TABLE OF CONTENTS

Section		Page
I	INTRODUCTION	5
	Purpose	5
	Scope	5
	Approach	6
	Organization of Report	7
II	CURRENT U.S. NAVY INSTRUCTOR TRAINING SYSTEM	9
	Instructor Selection and Assignment	9
	Current Instructor Selection and Assignment Procedures	9
	Instructor Selection Prerequisites	10
	Discussion	11
	Curriculum	12
	Instructor Basic Courses Staff Questionnaire Results	13
	Typical Staff Personnel	14
	Findings	15
	Assessment	19
	Instructor Evaluation	19
	Feedback of Instructor Performance	23
	The Ungraded Instructor Basic Course	26
	Career Structure	28
III	ANTICIPATED CHANGES THAT WILL AFFECT THE NAVY INSTRUCTOR TRAINING SYSTEM	33
	U.S. Navy	33
	Instructional Technology	33
	Industry	35
	Shipboard Instructional Technology	36
	Academic World	36
	U.S. Air Force	37
IV	CENTRALIZED INSTRUCTOR TRAINING SCHOOL	39
	Discussion	42
	Findings	47

TABLE OF CONTENTS (continued)

Section		Page
V	RECOMMENDATIONS	51
	Instructor Selection and Assignment	51
	Curriculum	51
	Instructor Basic Course Staff Questionnaire Results	53
	Assessment	54
	Instructor Evaluation	54
	Feedback of Instructor Performance	54
	The Ungraded Instructor Basic Course	54
	Career Structure	54
	Anticipated Changes That Will Affect the Navy Instructor Training System	55
	Centralized Instructor Training School	55
REFERENCES		57
APPENDIX A	Sites Visited by TAEG Personnel	61
APPENDIX B	Instructor Basic Course Staff Questionnaire (with Tally of Responses)	63
APPENDIX C	Origin and Destination of Trainees for FY 1974 Questionnaire	81
APPENDIX D	Total Personnel Requirements for Instructor Training School Questionnaire	83
APPENDIX E	Student Origin and Destination Questionnaire	85
APPENDIX F	Instructor Selection Survey	87
APPENDIX G	Courses Taught by Instructor Training Schools Under CNTECHTRA	89
APPENDIX H	Personnel Contacts in Military Instructor Training	91
APPENDIX I	Sample Feedback Letter and Instructions to Trainee/Supervisor	97
APPENDIX J	Proposed Tracks/Courses for Instructor Training School (Keys to Figure 5)	105
APPENDIX K	Sample End of Course Evaluation Forms, Marine Corps Development and Education Command Instructor Training School	113

TABLE OF CONTENTS (continued)

LIST OF ILLUSTRATIONS

Figure		Page
1	Instructor Evaluation Record.	21
2	Instructor Training Survey.	25
3	Sample Feedback Form.	27
4	Airmen Education and Training Career Field Chart (Modified).	29
5	Current Instructor Basic Course with Proposed Tracks/ Courses for Instructor Training School.	52

LIST OF TABLES

Table		Page
1	Student Load Distribution (IBM Field Engineering)	35
2	Staff Serving the Five Eastern Instructor Courses for 1974.	44
3	Estimates of Personnel Costs for a Centralized and Existing Instructor Training System	46
4	Summary of Cost Data for Instructor Training (Excluding San Diego)	48

SECTION I

INTRODUCTION

With continuing advances in educational technology and increasing sophistication in instructional delivery systems, the role of the Navy instructor is changing. No longer is his role limited to that of an information delivery agent. Among the new instructor job requirements which are evolving are individualized instructional management, academic diagnosis and counseling, training task analysis, training evaluation, media specialization, instructional material design and development, and computerized instruction.

PURPOSE

This study was undertaken to examine the current Navy instructor training system and to assess the impact upon that system of predicted changes in the educational, military and industrial environments of the 1975 to 1985 period. The specific objectives of the study are to:

1. Describe the current status of instructor training, including instructor selection and assignment, curriculum, the instructor basic course staff, assessment, and career structure.

2. Identify and describe anticipated changes in the military, academic, and industrial environments which may affect the instructor training system.

3. Explore the cost feasibility of centralizing the six current Chief of Naval Technical Training (CNTECHTRA) instructor training schools into fewer locations.

4. Make recommendations for improvements in the instructor training system.

SCOPE

The study was conducted during the period February 1974 to February 1975 and was limited to analyses of the six formal instructor training courses under the direct curriculum jurisdiction of CNTECHTRA. It does not include courses under the Chief of Naval Air Training (CNATRA). Results of the study have application to the instructor training system through the 1975 to 1985 period. The areas of instructor career structure, instructor assignment, and instructor training feedback, although important and relevant, are not covered in depth due to constraints of time and personnel.

APPROACH

This report presents the results of an analytic study in which a variety of data and information was used. Visits were made to various Navy and Air Force units and to a representative industrial firm. These sites are listed in appendix A. Interviews were conducted at each site with persons knowledgeable in instructor training.

A large number of relevant studies and reports were intensively studied. Education and training reports from industry, the military, and the academic world were reviewed.

Also, a questionnaire (shown in appendix F) was administered to instructors at the Advanced Underseas Weapons (AUW) School (SERVSCOLCOM, Naval Training Center (NTC), Orlando, Florida) to determine if individuals who volunteered for instructor duty performed significantly better than those who did not. In addition, a questionnaire (see appendix B) was employed to obtain occupational and educational data regarding the instructor training course staffs and to obtain the staffs' recommendations for changes.

To investigate instructor school centralization, three questionnaires were distributed to the six CNTECHTRA-controlled instructor training schools. These instruments (shown in appendices C, D, and E) were designed to elicit information on: Origin and Destination of Course Trainees for FY 1974, Total Personnel Requirements for Instructor Training School, and Student Origin and Destination. The questionnaire data were used for comparisons of resource requirements of the present six instructor school locations with requirements which would exist with fewer locations.

Finally, an interservice conference was held on January 15-17, 1975, at Orlando, Florida, concerned with the theme, "Military Instructor Training in Transition." Presentations were made by representatives from the U.S. Navy, Army, Air Force, Marine Corps, and the British Navy, as well as by individuals prominent in the industrial and academic field of education and training. The proceedings of the conference were published in May 1975 (Smode and Lam, 1975). The specific objectives of the conference were to:

1. Present a sampling of instructor training in today's military environment and summarize military instructor training programs with emphasis on trends, constraints and problems; highlight current practices; and identify problems of mutual interest.

2. Articulate plans and/or funded programs of the immediate future; present a blueprint outlining Instructor Training requirements and the changing role of the instructor. Emphasis is placed on the qualitative changes projected for the next generation Instructor Training system.

3. Present innovative concepts and ideas relevant to the long-range planning for Instructor Training; develop prescriptive inputs which can be incorporated into an idealized design of an Instructor Training system appropriate to the last quarter of this century. This should encompass the changing military and social environment and the predicted advanced technology of the future.

ORGANIZATION OF REPORT

This report is organized into five major sections. In addition to this introduction, section II describes the current Navy instructor training system and includes analyses of instructor selection and assignment, curriculum, the instructor basic course staff, assessment, and career structure. Section III outlines the anticipated changes in the military, academic, and industrial environments that may affect the instructor training system. Section IV presents an analysis of the cost feasibility of centralizing the six current CNTECHTRA instructor training schools into fewer locations. Recommendations for changes in the instructor training system are presented in section V. A number of appendices are included in the report which provide detailed information regarding the questionnaires used in the study as well as other information specific to the report.

SECTION II

CURRENT U.S. NAVY INSTRUCTOR TRAINING SYSTEM

INSTRUCTOR SELECTION AND ASSIGNMENT

Current instructor selection and assignment procedures are described and analyzed in this section. A study conducted by the Training Analysis and Evaluation Group (TAEG) at the AUW School, Orlando, to determine if individuals who request instructor duty perform better than those who do not is also summarized and the results presented.

CURRENT INSTRUCTOR SELECTION AND ASSIGNMENT PROCEDURES. The Chief of Naval Personnel (CHNAVPERS) establishes the eligibility requirements and qualifications for Navy technical school instructors. The requirements for enlisted personnel are outlined as follows (Enlisted Transfer Manual, NAVPERS 15909B):

1. Show evidence of leadership ability
2. Have a clear record
3. Be able to speak clearly
4. Demonstrate ability to work with others under supervision
5. Have ability to exercise sound judgment
6. Be military in bearing and deportment
7. No mark below 3.4 on the last three performance evaluations.

The selection of enlisted instructors is made by the NAVPERS Detailers (rate controllers) for each particular rate. Generally, the Detailer reviews the records of men who meet the sea duty requirements for shore duty and assigns men to instructor duty establishing a trade off between need for instructors in those rates and the need for experts in those rates in other non-instructor billets. An individual desiring assignment to instructor duty may request it by indicating such on his Enlisted Duty Preference Form (NAVPERS 1306/63, July 1972) and/or the Enlisted Transfer and Special Duty Request (NAVPERS 1306/7, March 1967).

The majority of instructors in the Navy technical schools are enlisted military; the remainder represent a balance being civilian and officer instructors. Less than one-third of all technical school instructors are volunteers for instructor duty (Stone, 1975).

A NAVPERS Detailer selects an individual for instructor duty to fill a potential vacancy. Thus, preliminary assignment to a location is made at the time an individual is selected, and a student in Instructor Training generally knows the training command to which he is assigned. Most often, it is not until after the student graduates from Instructor Training School and arrives at the training command that he learns the specific school to which he will be assigned and the course he will teach. In some areas, if an individual attending Instructor Training School is assigned to the Service School Command, the Instructor Training School personnel will learn of his school assignment while he is attending Instructor Training. The student is then assigned to the appropriate Instructor Basic course track contingent upon his school assignment.

INSTRUCTOR SELECTION PREREQUISITES. The consensus among management personnel at the Instructor Training and Navy technical schools visited was that instructors who had requested (i.e., volunteered for) instructor duty were generally better instructors than those who did not.

At the AUW School, Orlando, a sample of 50 instructors was chosen from available instructors. A questionnaire (see appendix F) was administered to the instructors to determine if they had requested instructor duty. In addition, the instructors' personnel service records were checked in an attempt to validate their questionnaire responses regarding instructor duty requests. The latter endeavor was unsuccessful as most of the service records did not contain Special Duty Request forms.

Quarterly performance evaluations were obtained for each of the 50 instructors (both the CNTECHTRA GEN 1540/42 and a local AUW School evaluation form were in the records). To obtain a relative measure of each instructor's performance, mean performance ratings were computed for each instructor by assigning a numerical value to each category description on the two evaluation forms (for the CNTECHTRA GEN 1540/42, superior = 5, competent = 3, requires additional training = 1; for the AUW form used prior to 1973, outstanding = 5, excellent = 4, satisfactory = 3, acceptable = 2, unsatisfactory = 1). Mean quarterly performance evaluation ratings (4.0) of instructors who requested instructor duty were found to be not significantly different from the mean performance ratings (4.1) of instructors who did not request instructor duty. The performance scores were generally high with little variability and did not identify which instructors, if any, performed significantly better than others.

In order to obtain ratings which would be more useful in determining whether instructors who request instructor duty perform better than those who do not, 3 senior supervisory personnel were asked to rank order the 50 instructors based upon their knowledge of the instructors' performance. The rank order was obtained through interrater agreement without regard to quarterly evaluation scores. It is believed that this

method of rank ordering instructors through interrater agreement produced a more reliable representation of the instructors' relative performance. The instructors' relative performance, as reflected in the rank ordering, was also found to be not significantly related to whether they requested or did not request instructor duty.

DISCUSSION. There are a variety of instructional strategies and instructor roles in the current Navy training system. It is unlikely that one set of instructor prerequisites could most adequately serve the needs of the many varied technical school training programs. Increased flexibility in the establishment of prerequisites and the selection of instructors to fill instructor billets is believed to be desirable. For example, while it may not be necessary for traditional platform instructors to be volunteers for instructor duty, it may be highly desirable for individualized learning supervisors to be volunteers. Personnel research is necessary to identify the type and degree of differentiation necessary in instructor prerequisites to increase the effectiveness of the instructor selection.

Results obtained from the questionnaire sampling of instructors at the AUW School, Orlando, do not support the hypothesis that men who request instructor duty make better instructors than men who do not request instructor duty. However, taking into consideration possible differences specific to the AUW School, it is believed that these results should not be generalized to the entire Navy instructor manpower population without further study.

Although it was not demonstrated in this study that volunteers perform better than non-volunteers, recent work done by the Individualized Learning Development Group (ILDG), San Diego, indicated that men who initially requested instructor duty had a significantly higher probability of requesting subsequent tours of instructor duty than men who did not initially request it (SERVSCOLCOM, NTC, San Diego, 1972). Their results indicate that there may be substantial cost savings in selecting volunteers for instructor duty. With more individuals serving two or more tours of instructor duty, fewer new instructors would have to be trained.

In a number of the technical schools visited, school management personnel expressed the need for more subject-matter qualified instructors. Although instructors had acquired the skills to instruct, some reputedly arrived at the technical school with inadequate knowledge of the specific subject which they were required to teach. Thus, retraining in the technical area is necessary for these individuals before they are able to perform as qualified technical instructors.

When there is a shortage of subject-matter experts in a particular rate, it is necessary for NAVPERS to establish a reasonable trade off between the need for technically qualified instructors and the need for subject-matter experts in other noninstructor billets. While there

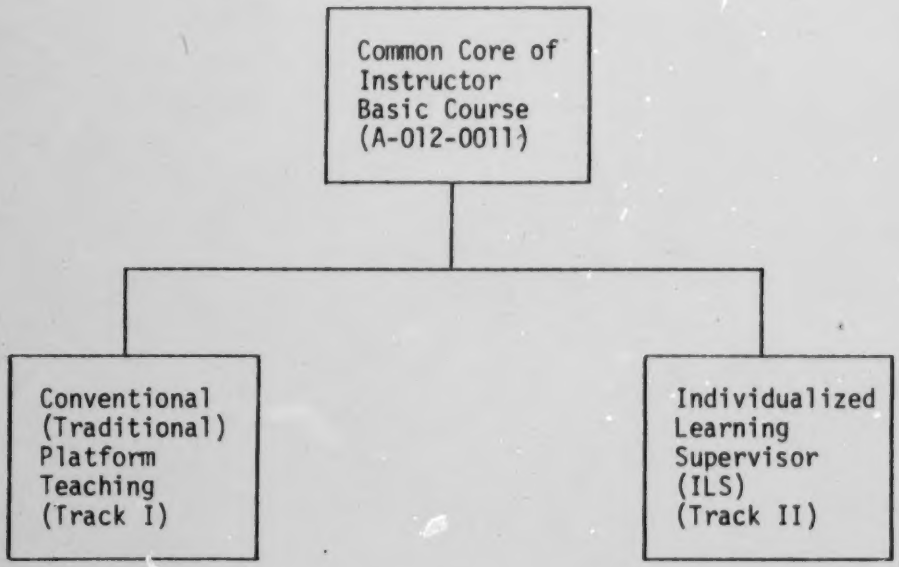
is need for subject-matter experts in operational units, assigning individuals to instructor duty who are not technically qualified can significantly decrease the efficiency of the training operation. First, it increases the amount of in-service training time necessary to prepare a man to teach. Second, lower quality technical instructors may produce trainees who function at a lower level of competence which may ultimately lower the quality of readiness of the operational units.

The CNTECHTRA A10 Manual (1974) specifies that it is the "responsibility of the activity to which the prospective instructor/learning supervisor is being ordered to notify the cognizant Instructor Training course of the particular path he is to enter." Through interviews with personnel at various technical schools and Instructor Training Schools, it was learned that the man's school assignment is not made known to the Instructor Training School staff. There appears to be a lack of coordination between the training an instructor receives and his job assignment. The point in time at which an individual is assigned to instruct a particular course or courses at a particular school is often after he completes Instructor Training. When there was only one Instructor Training curriculum, this situation was not of serious consequence. However, now with the traditional and learning supervisor tracks, it is of great importance that an individual's job assignment be made early in order that he may receive the appropriate training for that job.

CURRICULUM

It is not the intent of this study to make detailed curriculum change recommendations. However, the tracks or paths of student flow through the Instructor Training School will be analyzed in this subsection.

The common core of the current Instructor Basic course, with the conventional (traditional) track, was approved for implementation by CNTECHTRA in mid-1974 for the six Instructor Basic courses under its curriculum control. The Individualized Learning Supervisor (ILS) Track is (at the time of this writing) under detailed development by the Instructor Basic course curriculum model manager at Instructor Training School, San Diego (under direction of CNTECHTRA). The student flow for the existing course is as follows:


Common Core of Instructor Basic Course (A-012-0011)
Conventional (Traditional) Platform Teaching (Track I)
Individualized Learning Supervisor (ILS) (Track II)

Although there are only two official tracks to the Instructor Basic Course (A-012-0011) there are several other existing formal courses in various states of implementation under the Instructor Training Schools' control that might be considered additional tracks or paths since they are open to instructor or staff personnel. They include courses identified in appendix G.

The six Instructor Basic courses which are the basis of this study are located at the Instructor Schools in Memphis, San Diego, Great Lakes, Norfolk, Groton, and Newport (appendix G). All locations were visited and observed to be in full operation, well organized, well administered, and to have extremely high morale, especially the staffs for the Instructor Basic Course. The latest two-track Instructor Basic Curriculum is at various stages of implementation in the six locations. Copies of the current curriculums for all courses under the Instructor Schools are available from CNTECHTRA, Memphis. Curriculum recommendations (and proposed tracks) are found in section V of this report.

INSTRUCTOR BASIC COURSE STAFF QUESTIONNAIRE RESULTS

This subsection presents an analysis of the data and opinions obtained from the Instructor Basic Course Staff Questionnaire (which is described with detailed responses in appendix B). A composite picture of each typical staff member and his opinions and recommendations are

also presented. Recommendations based on the questionnaire concerning the instructor training staff are found in section V of this report.

TYPICAL STAFF PERSONNEL. According to responses to the questionnaire the Instructor School staff personnel display the following profiles:

1. Typical Director. He is a Navy officer, has been on the job seven months, has completed college, has completed Instructor Basic Course, has not taught in civilian life, has previous military experience in training, prefers military to civilian instructors for Instructor School, has varied opinions about combining Instructor courses into fewer locations, is in favor of a curriculum conference, and favors the course enlisted supervisor to represent him (with himself or the senior education specialist as second choice). He has never visited another Instructor Basic Course, believes it is difficult to make important curriculum changes, and does not think his school's opinions are well reflected in the current curriculum. He believes volunteers make better instructors, would like to raise the minimum 3.4 performance evaluation instructor selection requirement, and thinks the Instructor Basic Course staff is manned adequately.

2. Typical Instructor Basic Course Senior Education Specialist. He is a GS-12, has been on the job 6.9 years, has a Master's degree, has graduated from Instructor Basic and Naval Schools Management Courses, has taught either high school or college, has a good background teaching military courses, and is either retired military or ex-military. He has no strong preference for military versus civilian instructors, does not want to see the Instructor courses combined, and is in favor of a curriculum review conference to be represented by himself and/or the enlisted supervisor.

He seldom, if ever, has visited other Instructor courses but keeps in touch by phone or mail. He believes he can make changes to the curriculum with routine difficulty, and the current curriculum only half reflects his viewpoints. He believes the Instructor Quarterly Evaluation form needs revision to reflect the Individual Learning Supervisor and has strong viewpoints about what makes good or poor instructors. He believes the manning level of the Instructor Basic Course is not adequate.

3. Typical Instructor Basic Course Civilian Instructor. He is a GS-9 who was hired as a GS-7, has been on the job 4.4 years, has a B.S. degree, has taught high school, elementary school or college, has taught a Class "A" or "C" Navy School, and is either retired military or ex-military. He teaches 33 hours per week, prepares for class 2.6 hours weekly, and has .6 hours weekly administrative duties. He derives a great deal of satisfaction from his job, believes the job leads to faster promotion, believes civilians have more to offer teaching Instructor Basic, is divided on the question of a centralized Instructor Basic

Course, and is in favor of a curriculum conference to be represented by military and civilians. He believes the curriculum needs revision, does not believe the current curriculum reflected his school's inputs, and is satisfied with the current Instructor Quarterly Evaluation Form.

4. Typical Instructor Basic Course Military Instructor. He is a Chief or First Class Petty Officer selected from among 25 different rates, has taught an average of 1 year 3 months in the Navy, and has completed high school or GED. He has completed 1½ "A" Schools, 1 "B" School, and 4½ "C" Schools. He has not taught civilian schools but has taught 2½ years "A" School, 2 years "B," 3.4 years "C" and 6.1 years informal shipboard. He has taught the conventional track of Instructor Basic, teaches 21.5 hours per week, prepares for his class 8.8 hours per week, and has 6.8 hours per week administrative duties.

He requested this instructor tour, was selected by the Instructor Basic staff to teach it, is on his first tour teaching Instructor Basic, and plans to request another tour. He feels he is losing his technical expertise but is very satisfied with his job even though he feels it does not lead to faster promotion. He further believes this job enhances his status, prestige, and career.

He prefers military over civilian instructors for Instructor Basic and has no firm opinion about combining the Instructor courses into fewer locations. He is very much in favor of a curriculum review conference and would like to be represented by a military instructor or supervisor but has no strong objection to civilian representation.

He does not insist on volunteer instructors and does not want to raise the instructor 3.4 performance instructor selection prerequisite. He prefers the Instructor Quarterly Evaluation form as it is, has strong opinions about what constitutes a good or bad instructor, and thinks his school is understaffed.

FINDINGS. Responses to the questionnaire (appendix B) are summarized and briefly analyzed as follows:

1. Staff Education and Teaching Background (see appendix B, questions 3-6, 9-10A, 12).[1]

The Instructor Basic Course staff is fairly well educated (civilian training). Eighty-six percent of the platform instructors have

[1] For each item, the appendix is identified and the relevant questions from the questionnaire which has been analyzed are listed.

completed high school (or equivalent) or taken some college courses. The requirement that Instructor School directors attend the Navy Schools' Management Course is not well enforced.

2. Expenditure of Time by Instructors (see appendix B, question 12)

On the surface, civilian instructors teach considerably more hours than military, but the military spend more time in areas of course development and evaluation of instructors than do civilians.

3. Job Satisfaction (see appendix B, questions 15, 17, 18, 19, 20, 21).

Despite 54 percent of the military instructors believing they are losing their technical expertise by teaching Instructor School, 63 percent state they plan to ask for another tour of instructor duty. It is not known if the 66 percent of military instructors who volunteered for instructor duty are the source of the 73 percent selected by the Instructor School staff to remain to teach.

There is an apparent high morale among the instructor and supervisor staff of the Instructor Basic Course. It is also apparent that military instructors do not necessarily go into teaching to speed up promotion nor do they feel they are promoted faster as a result of being an Instructor Basic instructor. Nevertheless almost all of the military and civilian instructors on the staff believed their job enhanced their status, prestige, and career. Not a single one believed he was a "second class citizen." Instructors are probably inspired by job status far more than by career opportunity. It is probable that most are Chief Petty Officers who may feel they have already reached the top. For whatever reason, instructors at the Navy Instructor Basic Courses are proud of their job and happy to be in it.

4. Civilian vs. Military Instructors (see appendix B, questions 22, 23, 24).

The regular periodic turnover of military instructors assures that students are exposed to instructors with a variety of different rates. This is a strong argument for the proponents of using military instructors. The proponents' position is that military instructors bring in a steady flow of fresh experience to the classroom and this in turn keeps the class alive.

The military instructors and staff place a great deal of emphasis on rapport with students and understanding of military problems. Although 77 percent of the civilians are former military men, the question of recency of their military experience is a consideration. However,

the civilian staff is definitely military oriented. The consensus among military supervisors visited during the study was that three years is the maximum for a military instructor to remain "fresh" in a teaching assignment. The civilians visited expressed the opinion that permanency in their positions was an advantage as it contributed stability to the constant turnover in military personnel. Half of the military personnel, however, believe that the permanency of civilian positions was a disadvantage.

5. Curriculum Conference and Workshop (see appendix B, questions 27, 28).

On January 17, 1975, in conjunction with the Orlando conference on "Military Instructor Training in Transition," a Curriculum Workshop Planning Conference was held in Orlando and attended by key Instructor Training School and CNTECHTRA staff personnel. It was tentatively agreed by staff representatives that an actual workshop should be considered by CNTECHTRA to convene sometime in October 1975. The attendees at the January 17 conference agreed that the workshop should be attended by working level personnel with detailed knowledge of the curriculum.

6. Information Exchange and Curriculum Revision (see appendix B, questions 29 through 33).

The extent to which Instructor Basic course administrators exchange course information has been very small, especially as far as visits were concerned. This is showing signs of improvement such as the representation at the January 15-17, 1975, "Military Instructor Training in Transition" conference in Orlando plus other exchange visits by Instructor course personnel.

Concerning the question of which area of the Instructor Basic curriculum is in need of revision, the staff is a reservoir of ideas for curriculum change applicable to both individual schools and all schools. About 74 percent of the total staff had at least one recommended change to the curriculum which is further evidence of the need for a curriculum workshop. Directors believe curriculum changes are more difficult to process than do the civilian senior education specialists.

Among permanent personnel, the belief is that the current curriculum did not reflect all their recommendations. Among the personnel with greater turnover (military instructors and supervisors), the results are inconclusive. It is noted that due to the turnover of military staff few of them were in the Instructor Basic school when the task analysis and coordination meetings for the current curriculum were conducted.

7. Instructor Prerequisites and Selection (see appendix B, questions 13-21, 34).

Although the Chief Petty Officers on the Instructor Basic staff are topnotch, their chances of ever being assigned a second tour teaching Instructor Basic are slim. Apparently half the staff believe other factors contribute to making a successful instructor besides high mentality and volunteering for the duty.

8. Identification of Good Instructors (see appendix B, questions 36-38).

The Instructor Basic course staffs describe a successful conventional (traditional) instructor as follows:

The instructor must be a topnotch, dynamic, career-oriented Petty Officer with a remaining tour of duty. He must have a positive, enthusiastic attitude, be tactful, devoted to duty, desirous of further education, especially college (with a major in education) He must be a showman, be considerate of others' feelings, like to help others, and be a good listener. He must have a curious intellect, be patient, be able to deal with hostility, understand human needs and goals, and maintain a strong military bearing and a good rapport with the class. He must have common sense, keep the school mission in mind, be honest with students, be relatively outspoken, open-minded, and have a professional academic attitude. Finally, he must want to teach whether or not he volunteered for the job. It is of interest that McGehee and Thayer (1961) identified 19 "Traits and Abilities of a Good Instructor," and they were almost identical to the above traits independently identified by the Instructor Basic Course staffs.

The successful ILS is pictured much like the platform instructor described above. The distinguishing feature is that the ILS must be better able to discriminate between individual differences, be able to analyze problem areas, and to assist in selecting remedies to alleviate them. He must be trained in academic counseling to a far greater extent than is the traditional platform instructor.

9. Individualized Learning Supervisor (ILS) Track (see appendix B, questions 10A, 38).

Not all instructors have actual experience in being ILS's. The question of "Who teaches the teachers?"; that is, who teaches the staff to teach the new ILS track of the curriculum when it is implemented, is a valid one. The manner in which it is sometimes accomplished is for an instructor or supervisor to visit the San Diego Instructor course and observe the new curriculum in operation.

10. Instructor Manpower (see appendix B, question 39).

Although there may be an actual desire and need for more instructors in Instructor School, this is a manpower availability problem and is beyond the scope of this study. There was no evidence that the six courses were suffering from a manpower shortage except for special projects (e.g., development by San Diego of the curriculum and new ILS track) that seriously deplete manpower, forcing a choice of either prolonging development, asking for extra help, or giving priority to the classroom.

11. Instructor Quarterly Evaluation (see appendix B, question 35).

Over half the staff members have recommendations to make concerning revision of the Instructor Quarterly Evaluation form in CNTECHTRAINST 1540.12 (1973), and it appears that a general overhaul of the form is required. Most significant is a requirement to make the form more useful for ILS, shop, and lab. There are instructors who conduct no platform teaching (e.g., Basic Electronics and Electricity School, San Diego) who require a revised form. The subject of this evaluation form will be treated fully in a following subsection.

ASSESSMENT

In this section, the instructor quarterly evaluation process and the method of obtaining post-training feedback of instructor performance are examined. In addition, the issue of grading instructor trainees is analyzed.

INSTRUCTOR EVALUATION. The CNTECHTRAINST 1540.12 specifies the guidelines and procedures to be used in evaluating Navy technical school instructors. Instructors and ILS's are required to be evaluated at quarterly during the year. The primary objective of the instructor evaluation is to identify deficiencies in the presentation of instruction in order that appropriate measures may be initiated to improve the quality of instruction. In the introduction to the "Guide for the Evaluation of Instruction" (CNTECHTRAINST 1540.12), some of the problems inherent in the evaluation of instructors are recognized. The evaluation process endorsed in this instruction represents an emphasis on the instructors'/learning supervisors' effectiveness during a given class period.

The instruction suggests that a training officer, instructional supervisor, civilian training specialist, or senior instructor conduct the evaluation. The evaluator observes an instructor or learning supervisor conducting a class session and is allowed the option to make either a scheduled or an unscheduled evaluation. The CNTECHTRA GEN 1540/42,

Instructor Evaluation Record, figure 1, is used by the evaluator in making his appraisal of the instructor's performance. The format of the instructor evaluation record provides the opportunity to make narrative comments in areas of (1) elements of a learning session, (2) techniques, and (3) student response. In addition, it provides for yes/no responses in the areas of (1) student achievement of objectives, (2) use of media and/or facilities, and (3) subject matter knowledge. Finally, the evaluation form provides for a general rating of the instruction in terms of either "superior," "competent," or "requires additional training to qualify."

Instructions regarding the conduct of the evaluation emphasize the necessity of establishing rapport with the instructor prior to the evaluation process, becoming familiar with the instructional materials prior to the lesson presentation, and conducting a post-evaluation conference to discuss the evaluation with the instructor.

Discussion. While considerable research has been accomplished to identify and quantify universal criteria of effective instruction, little progress has been made to date (Melching and Whitmore, 1973; Ornstein, 1973). There is general agreement in the education and training literature, however, that meaningful evaluation of instructor effectiveness is contingent upon accurate determination of the tasks engaged in by instructors in the performance of their job. A problem then in attempting to identify universally applicable criteria of instructor effectiveness is that within the Navy there are many diverse roles for instructors and, therefore, many diverse tasks engaged in by instructors. In an age where standardization simplifies the task of training management and increases quality control, there is a tendency in the Navy to standardize the components of the instructor training system. However, with the increasing complexity of Navy training, there is a concomitant tendency for the instructors' role within the technical schools to become more specialized. There are, for example, some instructors who design instructional materials exclusively and do not engage in any teaching. In addition, the job requirements of the ILS differ considerably from those of the platform instructor. Duties such as Senior Counselor in the Student Preventive Counseling Program can also change the job requirements of the instructor. Thus, while standardization can be an effective means to assuring quality control, care must be taken to insure that adequate flexibility to meet the needs of the many varied technical training programs is not sacrificed. The input received from a number of technical schools visited was that the Instructor Quarterly Evaluation form (CNTECHTRA GEN 1540/42) was not sufficiently flexible for them to evaluate their instructional personnel. Some schools have developed their own experimental instructor evaluation forms which they feel better meet their needs than does the CNTECHTRA GEN 1540/42.

INSTRUCTION EVALUATION RECORD

CNTECHTRA-GEN 1540/42 (9-72) S/N 0197-TF0-3950

DATE

SCHOOL	PHASE/UNIT/PERIOD	INSTRUCTOR/LEARNING SUPERVISOR	RATE/GRADE

LESSON TOPIC

NATURE OF LESSON

☐ SKILL ☐ PROGRAMMED INSTRUCTION ☐ INDIVIDUALIZED LEARNING ☐ KNOWLEDGE

Evaluator has ☐ previewed the instructor guide and objectives, modules, or programmed booklets.

has not ☐ *(Signature)* _____

GUIDE FOR EVALUATION	COMMENTS
ELEMENTS OF A LEARNING SESSION: 1. Students are prepared for learning. a. Objectives are provided. b. Motivated in terms of: (1) How the material is to be used. (2) Why the material needs to be learned. 2. Rapport is established and maintained in a professional manner. 3. Attainment of objectives are reached, amplified, and reinforced, as necessary.	
TECHNIQUES: 1. Evidence of effective use of: a. Personal characteristics. b. Instructional skills and media. 2. Flexibility in adjusting to class and extemporaneous situations. Management of time.	
STUDENT RESPONSE: 1. Evidence of student/instructor interaction. 2. Class involvement. 3. Evidence of attainment of objectives through tests; checkoff criterion objectives sheet. 4. Choice and use of resources. 5. Demonstrates self-management.	

Did the students achieve the objectives?

Did the instructor/student use media and/or facilities advantageously?

Did the instructor possess adequate knowledge of the topic?

GENERAL EVALUATION OF INSTRUCTION

☐ SUPERIOR ☐ COMPETENT ☐ REQUIRES ADDITIONAL TRAINING TO QUALIFY

ADDITIONAL COMMENTS *(Use other side if more space required)*

Figure 1. Instructor Evaluation Record

GUIDELINES FOR EVALUATION OF INSTRUCTION

This guide is designed to assist both the evaluator and the instructor in improving instruction. They should discuss the notes made on it soon after the observed lesson. The relationship between the instructor and evaluator must be one of understanding and cooperation in which both work to reach the same goal of obtaining the best instruction possible. Use the following procedures for observation and improvement:

1. Instructors should be appriaed that the purpose of a visit is to assist in the improvement of instruction, not to participate in the class work.

2. Inform yourself about the instructor, students, and work underway.

3. Arrive before the class starts. Locate a suitable place for observation. If late, enter and locate yourself as quickly and inconspicuously as possible. Evaluate only that segment and the learning session you actually have observed.

4. Avoid being conspicuous when taking notes.

5. Use the items in the left hand column as a guide for the evaluation of the session. Evaluate all applicable items: enter meaningful comments rather than grades or single words. Make suggestions for the improvement of weak areas and commend the instructor on the strong points of instruction. Remember that because of varied personalities and backgrounds, individual instructors may use differing styles and teaching approaches to effectively accomplish their goals. of significance is that the elements of good instructional practices are implemented rather than any one "lock-step" system of presenting information. An overall evaluation should be given on the basis of superior, competent, and requires additional training to qualify. Place evaluation analysis in the space provided.

6. Provide the instructor with a completed copy of the evaluation guide.

7. Observe the instructor in various teaching situations: teaching knowledge and skill, learning or supervising programmed instruction, etc.

8. Maintain a file of evaluation guides for each instructor for use in determining the extent of his improvement.

ENTER ADDITIONAL COMMENTS FROM OTHER SIDE OF GUIDE

CNTECHTRA-GEN 1540/42 (9-72) (BACK)

Figure 1. Instructor Evaluation Record (continued)

Regarding the evaluator, a requirement that each student in Instructor Training School will receive instruction and evaluation from at least three staff instructors is specified in CNTT-A10 (par. 4.3.1). A modified extension of this requirement to the evaluation of instructors on the job in the technical schools would contribute to increased reliability of ratings and increased range of evaluative input for the instructor. Depending on the number of staff available to conduct evaluations, at least two and possibly three different evaluators should conduct the four required instructor evaluations each year.

Another area to consider is that of formal training for the evaluators. Although CNTECHTRAINST 1540.12 and CNTT-A10 specify guidelines such as "what to look for, how to proceed, forms, timing, critique, and records," there is evidence that formal training in evaluation is likely to increase validity and reliability of decisions and discrimination of measurement (Bolton, 1972). An evaluation instrument is only as effective as the degree to which the evaluator is skilled in using it. Thus, the degree to which instructor evaluators need more formal or in-service training should be determined and increased training in evaluation be developed.

Guidelines in CNTT-A10 (par. 4.6.1.5) specify that a follow-up conference be arranged by the evaluator in order that goals may be set for the improvement of the instructor evaluated. This is a critical element in the evaluation process, if the goal of improving the quality of instruction through evaluation is to be achieved. Although instructions on the instructor quarterly evaluation form (CNTECHTRA GEN 1540/42) specify that the evaluator will schedule follow-up conference with instructor/learning supervisor, there is no section on the form specifically titled "recommendations for improvement" and "follow-up" to those recommendations. An evaluator may enter such under the section "additional comments," but it is believed that the lack of specific sections for recommendations and follow-up needlessly deemphasize the importance of this step in the evaluation process. The "Instructor Evaluation Checklist" (U.S. Air Force, ATC Form 281, 1973) is similar in design to the Navy form, but one-third of the form is devoted to sections on "Comments and Recommendations for Improvement" and "Follow-up."

FEEDBACK OF INSTRUCTOR PERFORMANCE. A description of the current method of obtaining feedback information regarding instructor performance is presented in this subsection. Evaluative comments concerning this method are also provided.

To obtain feedback information, CNTECHTRA (Code 0162A) implemented an Instructor Training Survey in June 1974. Although the Instructor Training Survey has not been in operation long enough at the time of this writing to generate sufficient data for analysis, a few areas warrant comment. The survey consists of a form which is self-addressed

by each student instructor prior to graduation. Approximately six months following graduation, the forms are mailed to the graduates. The primary emphasis of the survey form, CNTECHTRA GEN 1500/8 (6-74), shown in figure 2, is an evaluation of 12 course topic areas of 5 categories. When completed, each survey form is mailed to CNTECHTRA (Code 0162A) for semiannual compilation of the results. The summarization analysis and the individual forms are then forwarded to the appropriate instructor training school. Data obtained from the survey forms, together with other data, will be utilized by CNTECHTRA, the Course Curriculum Model Manager (Instructor Training School, San Diego), and the Instructor Training Schools to make changes in the course curriculum in order to improve the quality and relevance of instructor training.

Discussion. An effective program of evaluative feedback will provide objective data about not only the degree to which instructors have acquired the behaviors specified in the Instructor Training learning objectives, but also the degree to which Instructor Training course objectives relate to the actual task requirements of the job. This is especially important as the implementation of instructional technology and the systems approach to training impact the role of the instructor and change the task requirements of the instructor on the job. For unlike most of the technical schools that typically train individuals for a limited range of job assignments, the instructor training school graduates are assigned to teach in a variety of Navy technical schools. They are faced, then, with a great variety of instructional settings. Currently, Training Schools graduate "platform" instructors and some "ILS" instructors. The underlying philosophy of the instructor training program is that the role of the instructor in Navy technical schools today is sufficiently similar so that one general two-track program of instructor basic training can adequately prepare a man for most instructor assignments. However, in order to insure that the current instructor training program is adequately preparing men to perform well in the variety of Navy technical school settings, it is necessary that accurate evaluative feedback be obtained from the technical schools regarding the job-relevance of the Instructor Basic course learning objectives.

In order to insure a reasonable return rate, the Instructor Training Survey form was designed so that it could be completed simply and quickly by the instructors on the job. While this will preserve efficiency and expediency of return, current work in the area of feedback indicates that this may result in some degree of effectiveness being sacrificed. In order to determine the effectiveness of an instructional system and to provide a basis for improving and updating the system, a program of feedback should provide objective data regarding the on-the-job activities and performance of the graduates of the particular instructional system (Tracey, 1971). The current Instructor Training Survey, however, asks respondents to evaluate the adequacy of course topic areas such as

INSTRUCTOR TRAINING SURVEY

CNTECHTRA-GEN 1500/8 (6-74)

S/N 0107-TFO-2980

Help improve the Instructor Training Basic Course by completing the following survey. No signature is necessary. Fold, staple, and mail.

1. DID YOU VOLUNTEER FOR INSTRUCTOR DUTY? ☐ YES ☐ NO

2. HOW DO YOU FEEL ABOUT INSTRUCTING? ☐ LIKE IT ☐ DON'T LIKE IT ☐ NO PARTICULAR LIKES OR DISLIKES

3. WOULD YOU VOLUNTEER FOR A SECOND TOUR OF INSTRUCTOR DUTY? ☐ YES ☐ NO

4. *Place an "X" in the appropriate column opposite the topics covered in the Instructor Basic Course. More than one check per topic is permissible.*

TOPIC	A HELPED	B NO HELP	C MORE EMPHASIS	D LESS EMPHASIS	E NOT NEEDED IN PRESENT BILLET
a. FACTORS AFFECTING LEARNING					
b. TRAINING TASK ANALYSIS					
c. LEARNING OBJECTIVES					
d. CRITERION TESTS					
e. INSTRUCTOR GUIDES					
f. INSTRUCTIONAL METHODS AND TECHNIQUES					
g. INSTRUCTIONAL MEDIA AND TECHNIQUES					
h. CURRICULUM DEVELOPMENT					
i. COUNSELING					
j. EVALUATION OF INSTRUCTION					
k. TEST ITEM CONSTRUCTION					
l. PRACTICE TEACHING					
(1) ILLUSTRATED LECTURE					
(2) DEMONSTRATION/PERFORMANCE					

5. WHAT TOPICS, IF ANY, SHOULD BE ADDED TO THE COURSE? WHY?

6. INSTRUCTOR TRAINING SCHOOL ATTENDED *(Circle one)*

GROTON NEWPORT NORFOLK GREAT LAKES MEMPHIS SAN DIEGO

7. PRIMARY INSTRUCTIONAL DUTY *(Circle one)*

CLASSROOM LAB/SHOP INDIVIDUALIZED CURRICULUM DEVELOPMENT TEST WRITER COMPANY COMMANDER SUPERVISOR OTHER *(Specify)*

8. MONTHS ACTUAL TEACHING _____ HOURS PER WEEK _____ TYPE SCHOOL *(Circle one)* "B" "A" "C" OR "F"

9. THIS SURVEY COMPLETED BY ☐ ENLISTED INSTRUCTOR ☐ OFFICER INSTRUCTOR DATE

Figure 2. Instructor Training Survey

factors affecting learning, training task analysis, and learning objectives, and does not elicit information regarding the job-task frequency or adequacy of training for the job-tasks. A preferable format to obtain evaluative feedback would be the use of performance based job-task statements.

Not only are the use of job task statements important in obtaining effective objective feedback data, but the dimensions along which the job-tasks are rated also influence the utility and objectivity of the feedback data collected. It is believed that the evaluative dimensions (helped, no help, more emphasis, less emphasis, and not needed in present billet) of the current Instructor Survey form are somewhat redundant. The situations in which a topic area was "no help" would more than likely also be "less emphasis" and/or "not needed in present billet." In addition, although these dimensions may allow identification of general problem areas, a rating of "more emphasis" on instructor guides, for example, does not identify what it is about the instructor guide topic that needs "more emphasis" and/or how much more emphasis is needed.

The biographic data which is obtained by the form is good. Questions regarding volunteering for instructor duty may provide data which will be very useful to individuals concerned with instructor selection (see Instructor Selection and Assignment, section II).

TAEG has recently completed a detailed study of feedback (Dyer, Ryan and Mew, 1975). In this study, a number of feedback instruments were used experimentally with graduates and their supervisors in the Radioman "A" School, San Diego. The variables studied included methods of collecting feedback data, source of the data, optimum interval for post-graduation data collection, and methods of analysis and utilization of the feedback data. Results of the study indicated that questionnaires with task-based statements mailed to both trainees on-the-job and to their supervisors six months after graduation facilitated the return rate for the instruments. The feedback data were also more relevant and valid with task-based questionnaires. Task statements were rated along two dimensions, frequency of task and adequacy of school training for this task. An example of this form is presented in figure 3. Examples of instructor task statements are included on the form in order to illustrate how this type of form might be utilized by Navy instructor training personnel. Sample letters and form instructions for trainees and supervisors used in the TAEG feedback study are presented in appendix I.

THE UNGRADED INSTRUCTOR BASIC COURSE. The final grades of all Instructor Basic Course graduates are recorded as either pass or fail. The previous system of ranking graduates and the norm-referenced measurement has been totally dropped for final grading. It has been replaced by a criterion-referenced measurement system. Presently no formal information about a

PAGE: _____	FREQUENCY OF TASK	ADEQUACY OF SCHOOL TRAINING FOR THIS TASK
Listed below are tasks which presently receive at least some emphasis in school. Please rate each task on the scales at the right by circling the most appropriate number. Please feel free to also include your reasons for your rating and/or any specific recommendations for training on this task. Your comments may be written in any available space on the front or back of this page or on a seperate sheet.	1. Never performed.* 2. Seldom performed or only in emergencies. 3. Performed monthly. 4. Performed weekly. 5. Performed daily. *ADEQUACY scale may be skipped if task is never performed.	1. Task requires much more emphasis in school. 2. Training less than adequate for task, increase emphasis. 3. Training adequate for task. 4. Training more than adequate for task, reduce emphasis. 5. Greatly reduce or eliminate training for this task.
1. Counsel students on academic performance	1 2 3 4 5	1 2 3 4 5
2. Counsel students on personal problems	1 2 3 4 5	1 2 3 4 5
3. Evaluate instructors by observation	1 2 3 4 5	1 2 3 4 5
4. Evaluate instructors by student critiques	1 2 3 4 5	1 2 3 4 5
5. Evaluate instructors by student performance	1 2 3 4 5	1 2 3 4 5
6. Evaluate students' academic performance	1 2 3 4 5	1 2 3 4 5
7. Conduct lessons using illustrated lecture method of instruction	1 2 3 4 5	1 2 3 4 5
8. Conduct lessons using group discussion method of instruction	1 2 3 4 5	1 2 3 4 5

Figure 3. Sample Feedback Form

student's class rank or strengths and weaknesses is sent to his new assignment. Not all instructors are pleased with the new system. CNTECHTRA (CNTECHTRAINST 1540.2) is in the process of accumulating data on the new approach.

Student records and instructor observations are still available to permit information to be sent to the students' new duty station concerning strengths and weaknesses although this is not being done by the six CNTECHTRA Instructor Basic Courses.

CAREER STRUCTURE

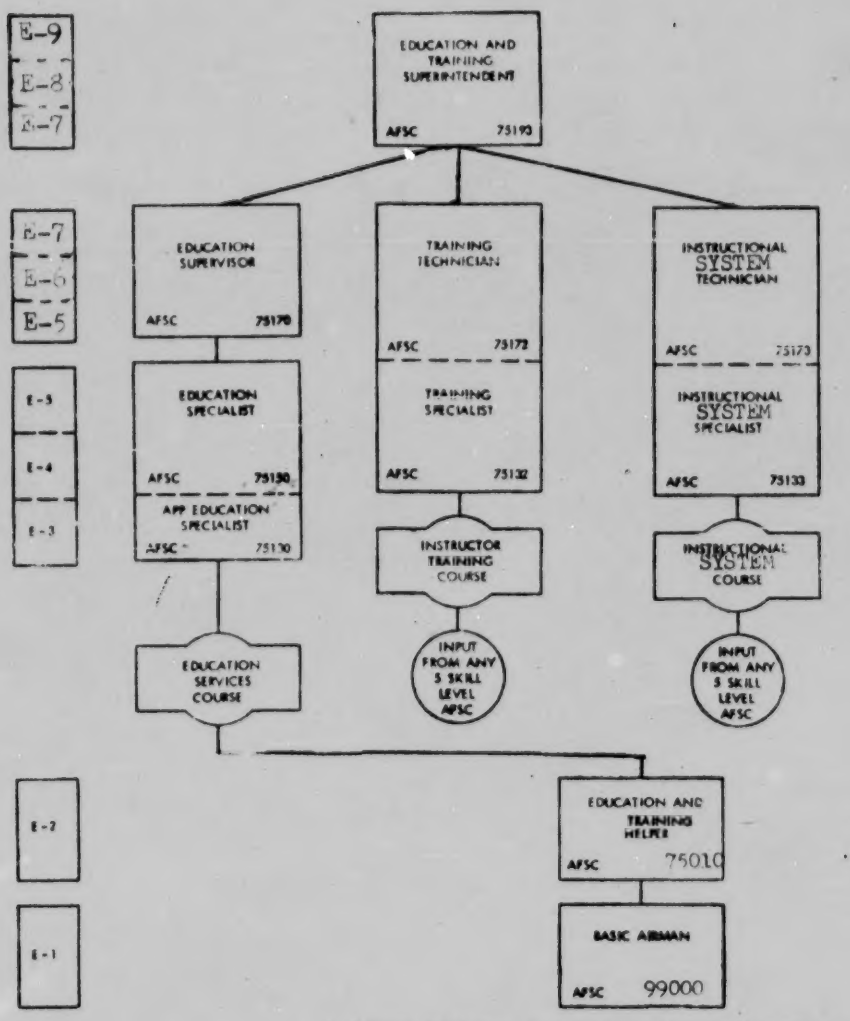
The U.S. Navy does not have an education and training career field. This subsection describes the Navy's education- and training-related classifications for enlisted personnel. An overview of the education and training career fields of the U.S. Air Force and the Royal Navy is also presented. Finally, the desirability of establishing an education and training career field for the U.S. Navy is discussed.

U.S. NAVY EDUCATION AND TRAINING CLASSIFICATIONS. Manual of Navy Enlisted Classifications (NAVPERS 15105-2) denotes the Military Training Instructors classifications as series 9501-9503. These consist of the 9501 General Instructor, the 9502 Special Instructor, and the 9503 Physical Training Instructor. In addition, an instructor-related NEC is the 9506 Instructional Programmer, which designates individuals who "prepare self-instructional materials."

The three instructor classifications (9501-9503) have a priority number of 7. The Instructional Programmer has a priority number of 6. Rating priorities are assigned on the basis of 1 to 8 with the lowest numbers indicating the highest priorities for designation as a primary NEC.

U.S. AIR FORCE. The U.S. Air Force has an Airman Education and Training Career Field which encompasses a variety of functions involved in the development and administration of formal and on-the-job training programs. The field also encompasses functions involved in the application of the systems engineering concept to new or existing training curriculums and the development and administration of instructional systems and materials for any career field or subject matter area (U.S. Air Force Manual 39-1 (C9) A47-1, June 1972).

The various specialties subsumed under this career field are illustrated in figure 4. Training Specialists (semiskilled, Air Force Service Classification (AFSC) 75132) and Training Technicians (AFSC 75172) are utilized to teach the Air Force instructor training courses. When rotated from instructor duty in an Instructor Training School, these individuals are



★ Airman Education and Training Career Field Chart.

Figure 4. Airman Education and Training Career Field Chart (Modified) U.S. Air Force

assigned to billets to develop, coordinate, and administer on-the-job and general military training programs, perform technical training functions, and supervise training personnel. After completing a tour outside of Instructor Training School, they again become eligible for another tour of instructor duty at an Instructor Training School. The requirements for the 75132 and 75172 AFSC's include the specification that an individual must be qualified in any 5-skill level AFSC. In other words, before becoming eligible for these AFSC's, an individual must be a qualified technician. However, although he is a qualified technician, once he obtains the 75132 or 75172 AFSC's, he works primarily in education and training assignments related to his AFSC but not in an exclusively technical capacity as in the Navy.

ROYAL NAVY. The Royal Navy has a career field for instructor officers called the Instructor Branch. It is comprised of approximately 630 officers who are recruited primarily for duties in education and training. The branch was organized in 1962 when the need for a separate branch devoted primarily to a training role was endorsed.

The majority of instructor officers provide instruction in the educational, technical, and operational components of Service Courses ranging from elementary work in the New Entry establishments to degree and postgraduate studies at the Royal Navy Colleges. The Instructor Branch is also responsible for standards of instructional technique and advises on the selection and application of training aids. Increasingly, the Instructor Branch is also involved in the design and planning of training courses.

Approximately 18 percent of the instructor officers are employed in full-time assignments outside the education and training fields. These include Meteorological and Oceanographic duties, Automatic Data Processing application, Intelligence, Operations Research, and operational appointments at sea.

Although instructor officers are employed in sea appointments, opportunities for sea time are limited. Generally, some 10 percent of the Instructor Branch are at sea at any one time. The majority of appointments are at shore establishments.

The general philosophy of the Royal Navy is that the instructor officer is very much a Naval officer in the fullest sense of the word and takes a combatant role within the ship's organization as the occasion demands. The Royal Navy endorses the need for a uniformed professional branch dedicated in the main to education and training, one which will assume wider responsibilities as the Service requires (Franklin, 1975).

Discussion. Proficiency as an instructor in the U.S. Navy has traditionally been considered secondary to proficiency in a technical rate. An individual is first and foremost a technician, and qualification as an instructor typically translates into a one-time, two to three year tour of instructor duty. Fewer than 1 in 10 instructors serve more than 1 tour of instructor duty (Stone, 1975). Among the reasons for such are the requirement to maintain maximum readiness among individuals in the technical specialties, to insure the availability of shore billets for a variety of individuals as opposed to a select few, and to maintain active involvement of individuals with the operational sector of the Navy to ensure effectiveness in the training sector.

When the role of the Navy instructor was limited to the platform lecturer and lesson plan writer, the lack of an education and training career field may well have been justified. However, with the increasing complexity of Navy training that requires instructors to have skills in areas such as instructional systems development, task analysis, course design, academic counseling, and individualized instructional management, the question needs to be asked, are the needs of the U.S. Navy still best served by not having an education and training career field? Information gleaned from interviews with instructors, Navy Technical School management personnel, and U.S. Air Force and Royal Navy personnel indicates that this question warrants serious consideration. Careful analysis of the costs and benefits involved in establishing a Navy enlisted and/or officer education and training career field is necessary. Factors such as making available a more highly trained, job-satisfied group of career training specialists must be weighed against the loss of some general shore instructor duty billets and the loss of some of the Navy's operational technicians.

SECTION III

ANTICIPATED CHANGES THAT WILL AFFECT THE NAVY INSTRUCTOR TRAINING SYSTEM

This section presents a description of anticipated changes in the military, industrial, and academic environments that will impact the Instructor Training System in the 1975 to 1980 period.

U.S. NAVY

CNTECHTRA is committed to the individualization of all courses where feasible, but, of necessity, the availability of manpower and financial resources will determine the accomplishment of the projections (Griswold, 1975). The pace of this conversion will determine the pace at which the ILS track of the current Instructor Basic Course is implemented. Fortunately, CNET and CNTECHTRA have farsightedly designed this track, which is scheduled to be operationally approved during 1975, as a self-paced package that can be used at an increasing rate as the conventional track correspondingly phases down. Since the bulk of the over 4000 formal Navy courses are still taught in the conventional manner, it is not anticipated that the conventional track will ever be phased out. It is anticipated by CNTECHTRA that 31 Navy Class "A" Courses will be converted to Computer Managed Instruction (CMI) by FY 1979. Conversion of Class "A" courses to Instructor Managed Instruction (IMI) is projected as 88 courses by FY 1979. At present, an in-service program at Memphis is being conducted to indoctrinate select Instructor Basic graduates and others into the CMI system.

INSTRUCTIONAL TECHNOLOGY. As stated previously, CNTECHTRA is committed to the individualization of all courses where feasible. No attempt will be made to predict which technique will be used for the individualizations and which technology will predominate in the Navy. However, the major options are analyzed below.

1. Computer Managed Instruction (CMI). CMI is expensive. However, whether cost effective or not, there is no alternative for the Navy but to increasingly implement CMI if any significant number of its over 4000 courses are to become self paced and individualized, which is the trend of current educational technology in general and the Navy in particular (Middleton, et al., 1974). There are over 30 Navy-wide courses with throughputs of 1000 to 2000 students per year that are potential CMI-structured courses and approximately 18 courses of over 2000 to 8000 students that are candidates for conversion to CMI (Middleton, et al., 1974). This conversion would demand a corresponding increase in ILS instructors.

2. Computer Assisted Instruction (CAI). CAI is only implemented in Navy training on an experimental basis, with few exceptions, such as the Basic Radio Course (USMC, Twentynine Palms). The expense of course writing for direct computer terminal use for converting thousands of Navy courses to CAI self pacing staggers the imagination. There are over 65 different languages used for CAI (Middleton, et al., 1974). A general-purpose programming language that would incorporate all the features desired in a CAI system has been the dream of many. "Development of effective CAI courses can only be accomplished by course authors who, in addition to being proficient in the traditional classroom environment, must have in-depth knowledge of those special techniques required to generate CAI material that not only teaches but anticipates the very human responses of the student sitting at the terminal" (Hallman, 1970). Other authors (Anastasio and Morgan, 1972) state that the emphasis placed on the development of a "better" author language is decreasing and that the team approach, using subject matter specialists and experienced programmers, is favored over a better language because it gives the course designer more flexibility with instructional strategy and techniques.

In any event, massive CAI use in the Navy for individualization of courses is not on the planned or budgeted horizon and has little foreseeable impact on Instructor Training Schools in the next decade. But who can predict with accuracy what will happen in 10 to 15 years. According to some authorities, "Computer Technology will have been developed to a point in 1985 where programming will be very similar to ordinary written instruction" (Knezevich, 1971).

3. Programmed Instruction (PI). For every CMI course converted or projected, there are literally thousands of short PI lessons, long courses, and phases of courses, wherein the student may self-pace through a purely paper text course that guides him in a branching manner through learning material. The PI package is sometimes used in combination with a study carrel and audio visual aids or may be as elaborate as having the exams mechanically or even computer graded. This process in all its various forms requires the new ILS instructor.

4. Instructor Managed Instruction (IMI). IMI is an instructional method which uses the ILS Instructor to manage students' use of a variety of resources at a learning center. This would include, of course, CAI and PI. Some of the courses now under IMI or scheduled for IMI will be converted to CMI (Griswold, 1975). The speed at which this conversion to or expansion of IMI takes place will determine the quantity of additional Instructor Basic course students taking the ILS track.

5. Other Future Technology. It is reported (Knezevich, 1971) that there is developed a memory storage system using an eight-colored

laser beam to store up to 100 million bits of information on a square inch of film. An Air Force scientist used laser to store a 20,000 volume library on an 8x10 inch foil and predicts it to be 20 times cheaper than conventional storage. Holography (almost unknown in 1970) may be among the most promising instructional media by the end of the 1970's and into the 1980's. And then there is the video disk that has the "highest information density ever achieved on any medium" (MCA Disco Vision, 1972). It is capable of storing approximately 40 billion bits per 12 inch disk with random, fast access to stored information permitted. The rate of reading recorded information is over 30 million bits per second with capacity to show over 35,000 slides per disk.

INDUSTRY. Under contract, industry often assists the Navy and other services in experimental or first-run conversion of courses to a new technology (e.g., Basic Electronics and Electricity School, San Diego; Basic Radio School, Twentynine Palms; the Advanced Instructional System, Lowry AFB). The involvement of industry in assisting the military in instructional technology and the trend in industry could be used as a fair indicator of the present and future trends in the military. With this assumption, the IBM Field Engineering Division's Field Instruction System (FIS) is presented as an example. IBM conducted a major training effort to keep customer engineers abreast of the frequent changes in technology. To reduce the time an engineer has to be away from home attending an Education Center, the FIS was implemented in which a large portion of training is accomplished through on-site computer assisted instruction (CAI). By looking at the IBM projections and predictions and again assuming that industry trend precedes (or at least reflects) Navy trend, the following (table 1) could be a glimpse into the Navy's future:

TABLE 1. STUDENT LOAD DISTRIBUTION
(IBM Field Engineering)

Instructional Mode	Actual 1973	Projected 1980
TAI (Traditional Admin. Instruction)	65%	41%
CMI (Computer Managed Instruction)	21%	35%
SS (Self Study - No Terminal - PI)	6%	0%
CCI (Computer Controlled Instruction Tutorial Not Terminal Dependent)	5%	9%
CAI (Computer Assisted Instruction)	3%	15%

By 1980, IBM predicts 41 percent of the instruction in the Field Engineering Division will still be by traditional methods. Table 1 notes that CMI increases 21 percent to 35 percent in 7 years; the self-study (PI) drops to zero; and CAI jumps from 3 percent to 15 percent. It must be remembered that this particular type of IBM instruction (that is, on-the-job (OJT) training in new specific equipment) is roughly equivalent to a Navy Class "C" equipment course, factory equipment course, or a shipboard Personnel Qualification Standard (PQS) equipment indoctrination. Where central computers are already established, available, and relatively inexpensive, such as in the IBM complex, the conversion to CAI may outpace conversion to CMI.

SHIPBOARD INSTRUCTIONAL TECHNOLOGY. The Shipboard Instructor Course (a course offered by the Instructor Training Schools) should be looking into the future for use of CAI/CMI aboard ship and the corresponding increase in the number of ILS versus traditional instructors to be trained. Numerous ships (over 100) have either special purpose or ruggedized general purpose computers (AN/UYK series and AN/USQ20 series) that theoretically could be retrofitted for CMI/CAI shipboard use, but actually the complexity and magnitude of changes that must be made to these operational computers to incorporate training are economically impractical. The cost of retrofitting equipment and the time that could be allocated for the operational equipment to be used for CAI/CMI without interfering with operational commitments would make the cost per student hour of training too high (Middleton, et al., 1974).

The current CMI project aboard the USS Dahlgren may pave the way with the mini computer (Nova 1200) already aboard being shared with the CMI project. The state of the art is changing so rapidly in mini and micro computer fields that in the near future the price for them could be such that it will be economically advantageous for ships to have a dedicated computer system for CAI/CMI or any aspect of self paced, individualized instruction. The number of ILS type instructors then required onboard, or at least the men trained to do OJT as a supplementary duty, would increase significantly. Subsequently, the Shipboard Instructor Course and the Instructor Basic course would require a higher output of this type graduate.

ACADEMIC WORLD. As is the case in industry, the trend in conversion of traditional to individualized instruction in the academic world may also be used as a predictor of the trend in the Navy. Considerable money and effort have been expended by numerous universities (e.g., Florida State University CAI Center; University of Illinois (PLATO System); Pepperdine University (Los Angeles, California) Computer Paced Instruction; Ohio State). Since much of the money expended in these efforts has come from Government sources, it would be logical to assume that the benefits of the academic experimentation will be shared by the military services.

As in the Navy, the technology movement in the academic world is under way but the majority of colleges and universities still conduct the bulk of the courses by traditional methods. In this case, it is not known to what extent the universities precede the Navy, if any, but at least they are following parallel paths.

U.S. AIR FORCE. The U.S. Air Force (USAF) has five Basic Instructor courses under Air Training Command, Randolph Air Force Base (AFB), Texas. These five courses are at Sheppard AFB, Texas; Chanute AFB, Illinois; Lowry AFB, Colordao; Keesler AFB, Mississippi; and Lackland AFB, Texas. Much like the Navy (CNTECHTRA), ATC Randolph controls a standard curriculum for its five courses.

The Air Force Instructor Training System has programs that are sufficiently different from those of the Navy. The highlights are described below.

1. Keesler AFB is developing a self-paced Instructor Training Branch.

2. Maxwell AFB conducts an Academic Instructor course considered to be an advanced USAF Instructor course. It is not under the control of ATC, HQ, Randolph, but is associated with the Air University.

3. Lowry AFB is associated with the massive Advanced Instructional System (AIS) now under contract and will develop the ultimate in CMI for select courses and use the residual data for development of other Air Force programs.

4. At Sheppard AFB, the Learning Resource Center audio-visual materials used in the individualized approach are more extensive than those found in Navy Instructor Schools. Sheppard has a formal "Technical Instructor Refresher" course compared to the Navy informal version. Also, Sheppard has a formalized supervised practice teaching block of 78 hours, similar to the Great Lakes, Illinois, Instructor Intern Program but not found in all Navy Instructor Schools.

5. All USAF instructors must attend at least 36 hours per year of in-service training. For example, the following courses taught by the Instructor Training Division (Sheppard) are used to satisfy the 36 hour requirement:

- Academic Counseling (36 hours)
- Development of Learning Objectives (36 hours)
- Tests and Measurements (36 hours)

- Instructional Systems Development (now under development) (36 hours)
- Training Supervisor (36 hours)
- Technical Instructor Refresher (36 hours)
- Librarian (20 hours)

6. The USAF Instructor Training Division (Sheppard) offers the following "Supplemental Training" courses:

- Technical Writer (144 hours)
- Development and Management of Instructional Systems (18-24 hours)
- Audio-Visual Methods (104 hours)
- Field Training Division Commanders Course (80 hours)

7. The USAF is revising the old Quarterly Instructor Evaluation Form to include self-paced instruction. Its title will be "Instructor Training/Recognition/Supervision" and will be issued by ATC Randolph. Recommendations for this section are found in section V of this report.

NOTE: Time and travel constraints did not allow visits to the U.S. Army training activities.

SECTION IV

CENTRALIZED INSTRUCTOR TRAINING SCHOOL

In this section, the feasibility of centralizing the CNTECHTRA Instructor Training into fewer than the present six locations is examined. The analysis assumes a relatively short planning period (five years) during which traditional classroom-lecture techniques currently used in Instructor Training programs will not change significantly.

The conventional wisdom used to rationalize proposals for centralizing economic activity stems from the proposition that overhead charges can be reduced. In more technical language, these savings are referred to as scale economies. Savings may be possible with improvements in management of the smaller sites but the potential savings related to the scale of operations are only possible by combining programs. These economies stem from two basic characteristics embodied in the use of resources: specialization and indivisibilities.

Within the larger training systems, tasks can often be sufficiently segmented to warrant the use of specialized resources. The larger training systems are, therefore, characterized by both a qualitative as well as quantitative difference in the types of resources used. In addition, there are greater opportunities for improvements in the meshing of resources with specific training requirements.

Specialization in the use of capital resources is, perhaps, the single most important factor contributing to scale economies. With increases in the size of operations, there is a greater opportunity for a qualitative change in the type of capital utilized. Within the larger systems it is often much less difficult to economically justify equipment which is expensive to acquire but highly efficient in the performance of specialized tasks.

Indivisibilities arise from the inability to acquire and/or divide certain resources into units which exactly match the training needs. Many resources, such as instructional material and personnel services, must be acquired in relatively discrete units or their services are not forthcoming or are very ineffective. Instructional material cannot be developed in an amount that will be completely consumed as training takes place. Large investments must be made in this material before any of the material is worth a great deal. When material is developed it can be used extensively with very little additional cost. If the material serves a system with large throughput, such development may become highly economical.

A second resource area where indivisibilities play an important role in determining scale economies is personnel. Training programs

with a small number of trainees will require the services of a director but not full time. The director cannot be "divided into small pieces" and used at several sites. Each small site must have a director and he must function below capacity and/or perform supplementary duties. A director may be doing a creditable job while performing multiple functions but surely he would be able to do a more effective job if he were able to devote his entire efforts to the management of one homogeneous program.

There are numerous examples within the training community where there exists the inability to acquire and use just that quantity of a resource necessary to perform the task. As a consequence, many of the resources used throughout the smaller training systems must be acquired in units with capacity that exceeds current needs. Furthermore, there are certain tasks which need be performed once and only once for each site, and the need to duplicate these tasks at each of several small locations leads to unnecessary inefficiencies. The net result is that the total effort and resources expended in managing the several training sites may exceed that which would be necessary with fewer sites. There is, thus, sufficient theoretical justification for a periodic evaluation of smaller training sites to determine the economic feasibility of centralizing.

The following analysis will concentrate on the economic feasibility of centralizing the Instructor Training at two locations: San Diego and Memphis. To minimize travel costs and yet allow for some centralization, a site was needed to serve the West Coast and Pacific area and one to serve the eastern United States and Atlantic area. The only sites considered were those where existing Instructor courses are currently being taught. San Diego was selected as the West Coast site since it is the only one of the six sites located on the West Coast. Memphis was chosen for the eastern site. It appears that billeting and other facilities for an expanded program could more easily be provided at Memphis than at any one of the remaining potential sites.

The projected input of the schools for the five courses considered for centralization (Instructor Basic, Instructor Shipboard, Programmed Instruction Techniques, Navy Schools Management, and Management and Supervision) was obtained from a questionnaire survey (appendix D) of Instructor Training schools. This survey revealed that the "projected" input for each year from 1975 through 1979 was 7800 students. The input is substantially greater than the 1974 input (5600) as computed from the same survey. It is also higher than the estimate given in the Training Operations Plan for FY 1975 (6785).

The distribution of students between the two locations was determined using data from an origin and destination survey (appendix C) for all students enrolled in the instructor courses for 1974. A simplified linear programming model of the transportation type was developed to

determine the ratio between schools which would minimize travel costs. Assuming two schools, one at San Diego and the other at Memphis, results from this model demonstrated that the allocation of students between the schools would be about equal; i.e., about one-half would be assigned to San Diego and the remaining half to Memphis. From the survey data it appears that the number of students which are being assigned to San Diego is essentially the same number as that which would minimize travel costs. In 1974 San Diego trained approximately 48 percent of all students enrolling in Instructor Training courses. Nearly 45 percent are projected for San Diego for FY 1975.

It was assumed that students who would currently be assigned to Memphis, Norfolk, Newport, Groton and Great Lakes would be assigned to Memphis and all trainees with destinations in the western United States and Pacific area would be assigned to San Diego. If the origin and destination patterns for the future remain similar to present patterns, then by following the above procedures in assigning students, approximately half would go to Memphis and the remaining half to San Diego. The current annual input of students in all five courses at San Diego would remain essentially the same as that predicted in the Training Operations Plan for FY 1975. The centralization scheme would leave San Diego essentially intact with the remaining five Instructor Training Schools being combined into one located at Memphis.

Using the projected annual input for the next five years as obtained from the survey and assuming that approximately 50 percent would be assigned to each school, the estimated input at each would be 3900 students. This estimate is considerably higher than current levels and would provide for some slack for fluctuations of input at Memphis. If the input at San Diego does expand to that level then additional resources must be provided to that school.

The data computed for a Memphis school were based upon an annual input of 3900. The distribution among the five courses was assumed to remain in the same proportion as given in the training plan for FY 1975. It was further assumed that the average annual students on board was a relatively fixed proportion of the annual input. Because of fluctuations, the latter assumption may often be strictly untenable when evaluated against empirical data for a given point in time. While fluctuations in inputs do exist, this estimate was assumed adequate for planning purposes. Capacity at Memphis would provide for an average on board of approximately 250 to 260 students. This is an approximate increase of 200 above current enrollment at Memphis. The expected average under instruction as projected in the Training Operations Plan for FY 1975 for the five Instructor courses at the five locations which would move to Memphis is 217. A capacity of 250 at Memphis would be adequate to accommodate most of the fluctuations in input.

Except where noted, all data and cost information which follows will deal only with the centralization of the five eastern locations at Memphis.

DISCUSSION

Six resource categories, plus travel costs, will be evaluated for potential scale economies in Instructor Training. The six categories are Instructional Material Development, Student Supplies, Students, Facilities, Equipment, and Staff Personnel. Travel costs for both a centralized and noncentralized program will be determined. If any economies are to be realized through the centralization of the Instructor Training programs, then one would expect to find specialization and/or indivisibilities to be important considerations in the utilization of resources within one or more of these resource classes.

1. Instructional Material Development. Each Instructor Training site uses a common training syllabus, and it is assumed that any instructional material developed at one site is available to all other sites without significant additional development cost. Because the costs of developing instructional material need only be incurred once for all sites, one would not expect to realize any significant savings to the entire Instructor Training program from the centralization.

In this analysis, it is assumed that any centralization within the next five years would not involve any significant new development of instructional material. The existing Instructor Training course syllabi and supporting instructional material could be used in a centralized program with little need to undergo a great deal of revision. This, of course, is premised on the fact that the present traditional classroom techniques will not change substantially within the next five years.

For periods beyond the five years considered in this analysis, specialization in both the type of instructional material and in its development may be a significant consideration. There seems to be a concensus that within the next 25 years a great deal more of the instruction in the Instructor Training program will use some form of computerized instruction. A movement in this direction will provide a strong impetus toward centralization and the need for specialized hardware and instructional material. Not only will the instructional material be more specialized, but staff personnel required to develop the material will need special skills in these areas.

2. Student Supplies. Few, if any, savings in expendable student supplies are expected from centralizing the Instructor Training programs. Student supplies will not be qualitatively different within a more centralized system nor will any savings be possible because of indivisibilities; i.e., the expendable supplies can be acquired and consumed as

needed. The total quantity is almost entirely dependent upon student flow and has little bearing on the location of the training.

3. Students. The "quality" of the student and the total time spent in training are the two student considerations which determine student costs of training. The ability and qualification of students to perform well as instructors should be paramount in their selection for Instructor Training. The criteria for selecting students for Instructor Training would not depend in any way on where the training was to take place. The location of the training sites might to some extent determine the individual trainees, but their qualifications and, hence, their salary and benefits should not differ significantly. There simply is no reason to postulate that the type of student, and therefore the salary and benefits of students, should differ between a centralized training system and the status quo.

No significant changes are anticipated in the instructional program within the next five years, and consequently the length of time spent in training and, therefore, costs for salaries and benefits will remain relatively constant. Centralizing the existing programs and maintaining the same instructional programs would affect neither the quality of the incoming student nor the average length of time spent in training.

4. Equipment. Present Instructor Training methods require traditional classroom equipment with a few rooms equipped with a video system for practice teaching sessions. Equipment required for a centralized system would be qualitatively similar and the total amount necessary will be in direct relation to the number and size of classrooms used in the program. Savings in equipment which might be possible from centralization would evolve from improvements in efficiency. Since the equipment required for a centralized system using present instructional methods is almost identical to that required at the present six locations, the equipment costs will receive only cursory treatment in the following analysis.

That equipment is not considered a significant cost factor in this analysis stems largely from the relatively short planning period and the expectation that present instructional methods are not expected to change during this period. While present instructional methods are of low capital intensity, it is expected that for the more distant future a computerized system will be seriously considered as a viable instructional delivery system. The specialized equipment required for a computerized system is relatively expensive and any study into the feasibility of implementing such a system within the Instructor Training programs would require a detailed evaluation of equipment characteristics and costs. It is highly probable that equipment will be so highly specialized and expensive that only through centralization could a computerized system be justified.

It was assumed that any equipment which would be phased out at any of the six locations would have no remaining value. Also, classrooms are assumed to be equipped with conventional equipment including tables, chairs, lectern and chalkboard. In addition, most classrooms will have available an overhead projector and screen. Video equipment available for use in practice teaching sessions would include video tape recording units, video playback units, television cameras, television monitors, and audio recorders.

The estimated value of equipment to be purchased for each of the large 18' by 40' classrooms is $1182 and for the smaller 18' by 20' classrooms $620. Investment in video and recording equipment was estimated at $26,000. Initial acquisition costs for equipment to establish a school at Memphis which would have the capacity to handle the training of instructors for all sites except San Diego would be $64,000. Equipment costs were estimated using the current GSA equipment catalog.

5. Personnel. The personnel devoted to all courses during 1974 at the five eastern sites are presented in table 2. Four man-years were spent by directors, 16.35 man-years by senior instructors, 54.65 man-years by instructors and 7.2 man-years for secretarial assistance. The remaining time (4.15 man-years) was spent by personnel in other support functions. A total of 86.35 man-years was spent for all five sites.

TABLE 2. STAFF SERVING THE FIVE EASTERN INSTRUCTOR COURSES FOR 1974

Position	Great Lakes	Norfolk	Memphis	Newport	Groton	Total
	Man Years					
Director	1	1	1	1	0	4
Senior Instructor	3.35	8	3	1	1	16.35
Instructors	19.65	17	11	1	6	54.65
Secretary	1	3	2	1	0.2	7.2
Other	2.75	0	1	0	0.4	4.15
TOTAL	27.75	29	18	4	7.6	86.35

Personnel requirements for a centralized system at Memphis (as estimated by CNTT, Memphis) would be 1 director, 2 senior instructors, 34 instructors, 5 secretaries, and 4 individuals in support roles. These individuals would serve full time on the Instructor Training staff and, in total, would represent 46 man-years of effort each year.

The rank and ratings of the current instructor school staffs were determined from the questionnaire (see appendix B) completed by instructors. Civilians made up approximately 15 percent of the instructor school staff for all sites. It was assumed that the mix of military-civilian in a centralized school would be in the same ratio as presently exists.

Using the Navy billet cost model data for each of the ratings and assuming an average time-in-grade for each rank, a composite estimate of wages, salaries, and benefits was developed (table 3). Present personnel costs computed from these data were approximately $1.8 million per year. With two schools, these costs could be reduced to $0.9 million for a saving in staff costs of nearly $0.9 million per year. These savings are real in terms of resources required for training instructors. If these are to be translated into reductions in budget dollars over the long-run, then these billets must be eliminated. When total strength is not reduced in response to these savings, then it is presumed that individuals filling these billets can be used in productive and alternative uses which are of value equal to their salary and benefits. If it can be demonstrated that individuals filling these billets have no alternative use, then the personnel savings projected above are not valid. This is tantamount to arguing that the opportunity costs of using these individuals are zero and they are essentially a free resource. Rarely can the latter argument be substantiated.

6. Travel. A relocation of the Instructor Training courses to Memphis will have travel implications for students. The majority of students who are trained at each site for instructor duty remain at that location as instructors.

Data from a survey completed by each school administration indicate that more than 60 percent of students assigned to the Instructor Training School left duty assignments that were located in the immediate vicinity of the school. Although the travel cost information was based on data from this questionnaire, there is evidence to indicate that the latter percentage may be biased upward. A survey of individual students enrolled in the Instructor Training courses from November 1 through December 13, 1974, indicated that only 24 percent of those students came from the local area where the school was located. Furthermore, of these same students, nearly 20 percent were to be assigned to duty at a location other than the area where the school was located. The latter data would indicate that most students were involved in some travel immediately before entering the course or immediately after.

TABLE 3. ESTIMATES OF PERSONNEL COSTS FOR A CENTRALIZED AND EXISTING INSTRUCTOR TRAINING SYSTEM

Position	Present			Proposed Centralized	
	Avg. Unit Costs (dollars)	Man Years	Total Costs (dollars)	Man Years	Total Costs (dollars)
Director	28,192	4	112,768	1	28,192
Senior Instructors	22,400	16.35	366,240	2	44,800
Instructors	21,600	54.65	1,180,440	34	734,400
Secretaries	8,000	7.2	57,600	5	40,000
Other	16,200	4.15	67,230	4	64,800
Total		86.35	1,784,278		912,192

If findings from the student survey can be extrapolated to include all students for the year, then one would not expect a substantial increase in the number of students who would be required to travel. For all schools an estimated 10 to 15 percent increase would be required. Most of the latter increase would be a result of students leaving a location where a school currently exists and then, after receiving their training, returning to that same area for instructor duty.

Using the origin and destination data acquired from the survey of instructor schools and using current commercial air rates, an estimated annual travel cost for all schools (excluding San Diego) was $129,300 per year. Assuming the five eastern locations were centralized at Memphis, the estimated travel costs would increase to $273,500 per year or an increase of $144,200 per year. Much of this increase can be attributed to the fact that as many as 60 percent of all students are located where a school presently exists but would need to travel to Memphis to receive Instructor Training. Per diem subsistence was not considered in the above travel costs. If students were in fact assigned to the instructor school en route to their instructor duty station, it appears that travel costs associated with a centralized school need not be as high as indicated above.

7. Facilities. The Instructor Training courses, as presently conducted, require traditional classrooms with a relatively small amount of administrative support area. The qualitative characteristics of facilities required for a centralized training system will not differ significantly from those required for the smaller programs. The use of specialized facilities does not appear to offer the possibility for any significant savings under the present instructional program.

Training facilities currently used by the Instructor Training programs at the five eastern locations were assumed to have alternative uses. Most Instructor Training programs are located in, or anticipate moving into, facilities that are of relatively good quality. These were estimated to have an alternate use and were valued at $5 per square foot, including support and maintenance. Data were not available on the alternative value of any Bachelor Enlisted Quarters (BEQ) space which would be released if the five eastern programs were centralized at Memphis. The annual cost of a new BEQ for 200 students at Memphis was $140,000 (based upon an amortization period of 20 years). This would represent an approximate upper limit of the value of any released BEQ space. This estimate must be reduced to compensate for BEQ space which is of inferior quality and adjusted for situations where released space has no alternative use. In areas where surplus BEQ space already exists, the value of any additional released space would be zero. The cost data presented placed a relatively conservative estimate of $25,000 per year on the value of released BEQ space. This represents a rather crude estimate and is not crucial.

The anticipated total requirement for classroom facilities at Memphis to handle a centralized program would be 26 classrooms, 2 training and reference rooms, 3 work rooms, 2 learning center rooms and 5 small administration rooms for a total space requirement of 19,800 square feet. This is almost exactly equal to the estimated space that could be released (19,760 square feet) at the five sites by centralizing.

Facilities at Memphis are not available for a centralized program. To handle the expected increase of 200 AOB at Memphis, a new training building and BEQ would be required. The estimated costs of those facilities would be $5,532,000. An additional $49,400 per year will be required for support and maintenance of these facilities. In evaluating the annual long-run cost of facilities, the training building and BEQ were amortized over a period of 20 years and the value of assets remaining at the end of the planning period was discounted at 10 percent.

FINDINGS

The cost data (excluding San Diego) are summarized in table 4. To establish a centralized program at Memphis would require the construction of a training building and BEQ building at an estimated cost of $5.5 million. Annual student travel costs for a centralized program would

TABLE 4. SUMMARY OF COST DATA FOR INSTRUCTOR TRAINING (Excluding San Diego)

	Projected Annual Costs						
	Implementation Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Remaining Value of Assets
I. FACILITIES							
Classrooms							
Present	0	98,000	98,000	98,000	98,000	98,000	0
Proposed	2,732,000	49,400	49,400	49,400	49,400	49,400	2,049,000
Billeting							
Present	0	25,000	25,000	25,000	25,000	25,000	0
Proposed	2,800,000	(a)	(a)	(a)	(a)	(a)	2,100,000
II. EQUIPMENT							
Present	0	1,500	1,500	1,500	1,500	1,500	0
Proposed	64,000	1,000	1,000	1,000	1,000	1,000	32,000
III. PERSONNEL							
Present	0	1,784,300	1,784,300	1,784,300	1,784,300	1,784,300	-
Proposed	0	912,000	912,000	912,000	912,000	912,000	-
IV. TRAVEL							
Present	0	129,300	129,300	129,300	129,300	129,300	-
Proposed	0	273,500	273,500	273,500	273,500	273,500	-
TOTAL							
Present	-	2,038,100	2,038,100	2,038,100	2,038,100	2,038,100	0
Proposed	5,596,000	1,235,900	1,235,900	1,235,900	1,235,900	1,235,900	4,181,000
PRESENT COST:							
Existing System			$8,107,400				
Proposed System			7,786,300				
			$ 321,100				

(a) Operation and Maintenance Costs included in data for classrooms

increase by $144,000. Equipment costs are relatively minor but would be slightly higher for a centralized facility. The proposed equipment would provide for improved utilization of personnel and instructional material. Annual personnel costs (i.e., the Instructor Training staff) would be reduced by nearly 50 percent from $1.8 million to $0.9 million.

Costs of development and maintenance of instructional material, students' salary and benefits, and expendable student supplies are not included in these data. The latter costs were assumed to be independent of the location of training and would remain invariant with respect to centralization.

These cost estimates attempt to evaluate all resources used in instructor training which are expected to vary in response to centralization. While many of these data have budget analogues, others do not. Many of the resources which were evaluated in the analysis are already owned and need not be supplied from current budgets. Personnel retirement costs represent one example of real long-run Navy costs which are not accounted for in most current budgets. The personnel costs presented do include these costs and may, therefore, overstate the current budget dollars. On the other hand, the estimates for a new training building and BEQ represent direct estimates of the requirements for MILCON funds.

The present cost of a centralized program over a five-year period is $7.786 million and the present cost of keeping the present system is $8.107 million. The potential savings over a five-year period would be $321,000. These savings are not a large proportion of the total instructor training budget. While there does appear to be a slight cost advantage to a centralized program, it is not so overwhelmingly conclusive as to unduly influence the centralization decision. Any decision to centralize should weigh very heavily the nonquantifiable advantages and disadvantages of a centralized program. Consideration should be given to the quality of instruction under both alternatives as well as the advantages and disadvantages of having all eastern instructor courses combined into one homogeneous program. If a site could be found where surplus facilities are available at relatively low costs, then considerable savings could be realized from centralization.

There are a number of decisions and considerations which may significantly alter the cost relationships of this study and thereby lead to substantially different recommendations about centralization. First, a decision to implement a computerized instructional system is likely to significantly alter the cost relationships in such a way as to make centralization the most efficient method of organizing the instructor schools. Computerized instructional systems are very capital intensive and must be developed in such discrete intervals that it may not be economically feasible to utilize such a system with the small throughput levels being experienced at each of the current five sites.

Second, much of the cost of centralizing the five eastern sites at Memphis was attributed to the fact that new classrooms and BEQ's must be constructed. Considerable savings in Instructor Training costs would be possible if a site could be found where surplus facilities are available.

Third, because of the potential for scale economies, it would appear that long-term plans should include some centralization scheme. As existing capital facilities require replacing, they should be done only after carefully considering their utility for centralization.

Recommendations for this section will be found in section V of this report.

SECTION V

RECOMMENDATIONS

INSTRUCTOR SELECTION AND ASSIGNMENT

1. Adequate knowledge of the technical area is an important criterion for instructor selection and should receive more emphasis.

2. As new roles of instructors emerge, such as that of the ILS, consideration should be given to differentially standardizing the NAVPERS eligibility requirements and qualifications to insure that they are maximally relevant to the requirements of the job.

3. The advantages of establishing a prerequisite that personnel volunteer for instructor duty should be given further study.

4. It is recommended that a formalized procedure be developed whereby Instructor Training Schools receive notification of the assignment of each student instructor prior to or concurrent with the commencement of Instructor Training to allow for greater effectiveness in the assignment of men to the appropriate curriculum tracks in the Instructor Basic course.

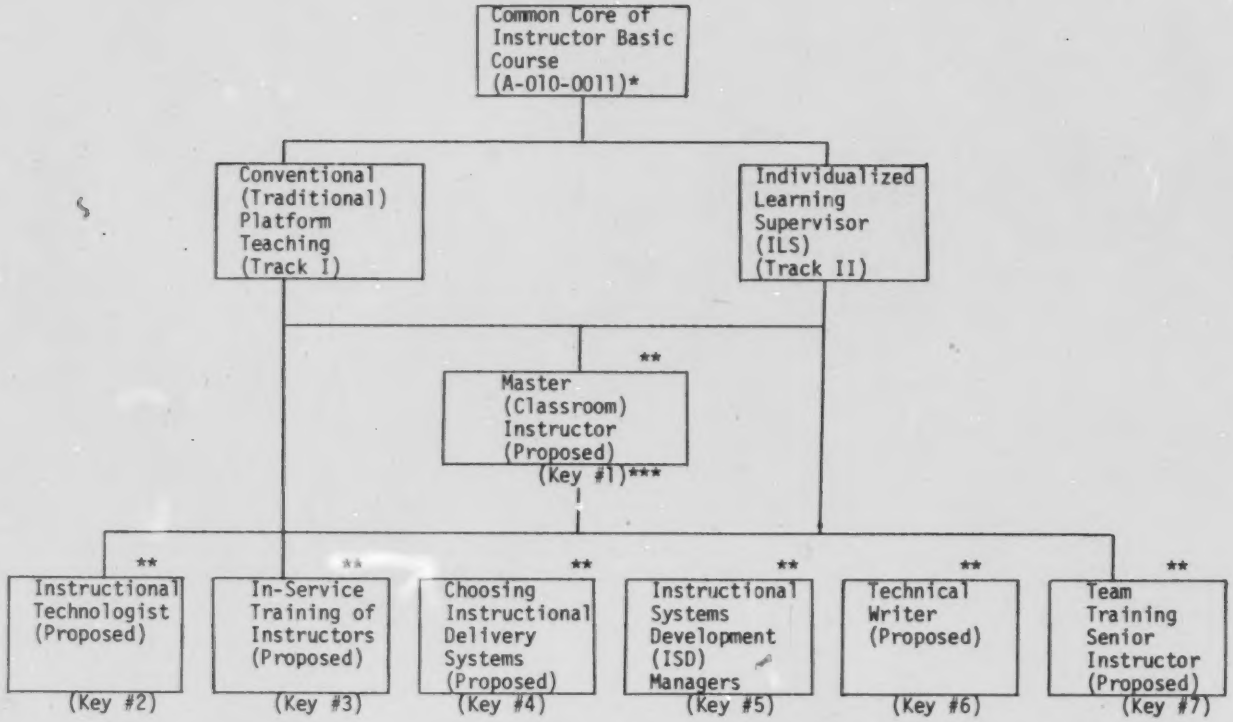
CURRICULUM

1. It is proposed that CNTECHTRA consider a curriculum recommendations workshop based on discussions held at the Curriculum Workshop Planning session held at TAEG (Orlando, FL) on 17 January 1975 as part of the "Military Instructor Training in Transition" Conference. The workshop should also use the curriculum conference recommendations resulting from the Instructor Basic Staff Questionnaire analysis of this report.

2. The instructor of the future will require more support from more non-teaching specialists. Suggested titles for these support specialists are: Content Research Specialist, Media Specialist, Educational Systems Specialist, and Educational Engineers (see Loughary, 1969).

A proposed series of additional support tracks or courses, similar to the above specialists, to be taught by the Instructor Training School staff, is presented in figure 5. The descriptions (keys) for these courses are shown in appendix J.

It is recommended that the following references be used as guidelines for developing the new courses: Manual CNTT-A10 Procedures for the Planning, Design, Development and Management of Navy Technical Training Courses (CNTT 1974), and the Instructional Systems Development (ISD) Model (NAVEDTRACOM 106A) being developed by the Interservice Committee on ISD and the Center for Educational Technology at Florida State University. NAVEDTRACOM 106A is scheduled by CNET to replace CNTT-A10.



* Common Core Instructor Basic w/Tracks I and II. Existing courses in 6 locations. Track II under development.
** Proposed for select locations or centralized schools.
*** Keys 1 to 7 in appendix J.

Figure 5. Current Instructor Basic Course with Proposed Tracks/Courses for Instructor Training School

INSTRUCTOR BASIC COURSE STAFF QUESTIONNAIRE RESULTS

1. Staff Educational and Teaching Background. Special effort should be expended to assure that all Instructor School directors have the opportunity to attend the Navy Schools' Management Course (A7B-0010) prior to commencement of duties.

2. Expenditure of Time by Instructors. Adjust the computation formula for the annual instructor personnel allowance to provide manpower to perform off-platform duties. The NEC 9502 (Special Instructor) billets should be filled by those who will actually teach. Other specialist NECs should be used for instructor support and new NECs created where needed.

3. Civilian vs. Military Instructors. Assign one civilian instructor to each Instructor Basic course to assist the senior education specialist in assuring continuity of policy implementation. Military instructors and supervisors should continue playing the major role as is now the case in the majority of the schools. Frequent in-service job rotation of civilian instructors is recommended.

4. Curriculum Conference/Workshop. An annual gathering of representatives from the working level from each of the six Instructor Basic courses should be scheduled at a different location each year to review such areas as curriculum, staff selection, and evaluation of students, and arrive at specific recommendations to be submitted to CNTECHTRA. If travel budget restrictions affect the frequency with which such conferences could be held, it is believed imperative that the conference be conducted at least biennially.

5. Information Exchange and Curriculum Revision. Increased communication by phone and letter is recommended when exchange visits are not possible. This includes the senior instructor calling the personnel of the other five Instructor Basic courses every three months for discussions on curriculum and other problems.

If the Training Program Coordinator (CNTECHTRA) is not able to visit each Instructor Basic course annually, it is recommended that he call each course frequently to discuss problems and recognize accomplishments. CNTECHTRA should place increased emphasis on requests for permission to implement curriculum changes on an experimental basis for a specific limited time during which assessment and final decision may be made.

6. Instructor Prerequisites and Selection. The NAVPERS Detailers, staff personnel, and field officers involved in selecting the Instructor School instructors should select approximately 10 percent more 1st Class Petty Officers to assure a larger reservoir of potential second tour instructors for the Instructor School.

ASSESSMENT

INSTRUCTOR EVALUATION.

1. It is recommended that specific sections for "recommendations for improvement" and "follow-up" be included on the instructor evaluation form.

2. It is also recommended that instructors receive their quarterly evaluation from at least two different evaluators each year. The degree to which evaluators need more formal or in-service training in evaluation should also be determined, and appropriate programs be expanded, as necessary.

3. The overall effectiveness of the Instructor Quarterly Evaluation process in identifying instructor deficiencies and determining ways by which instruction may be improved is questionable. It is recommended that the instructor evaluation instrument and/or its administration be the subject of in-depth study in order that a more meaningful measurement of instructor effectiveness may be accomplished.

FEEDBACK OF INSTRUCTOR PERFORMANCE. At a time when the implementation of instructional technology and the systems approach to training are impacting the role of the instructor, effective evaluative feedback from the Technical Schools is critically needed to maintain job-relevance of the Instructor Training program. A complete analysis of feedback methodologies and variables affecting feedback are described in TAEG Report 19 (Dyer, et al., 1975). Results indicate that the instrument utilized in the TAEG feedback study (see figure 3) may have wide applicability to Navy technical training, including Navy Instructor Training. It is recommended that the results of the TAEG feedback study be utilized in revising the current Instructor Training feedback method.

THE UNGRADED INSTRUCTOR BASIC COURSE. The Instructor Basic course should submit records of each graduate student instructor to his next activity to include a briefing of the individual's characteristic features. The format recommended is one used by the U.S. Marine Corps Instructor Training School, Quantico, which submits a formal End of Course Evaluation letter to the graduate student instructor's next command. A sample letter with the "End of Course Evaluation" enclosure is found in appendix K.

CAREER STRUCTURE

At a time when the composition of the Navy is changing and the role of education and training is achieving increasing prominence in the Navy, it is recommended that establishment of an education and training career field be given in-depth study and consideration.

ANTICIPATED CHANGES THAT WILL AFFECT THE NAVY INSTRUCTOR TRAINING SYSTEM

1. The CNTECHTRA approved curriculum for the Instructor Basic course has been designed with the 5 to 10 year future in mind. When the ILS track is approved it will accommodate the expected increased requirement to graduate the ILS type instructors that will result from planned course revisions, as well as changes resulting from NOTAP, NEOCS, CMI, PI and IMI. Nevertheless, these anticipated, extensive course revisions and changes in the technical schools will very likely result in the requirement to reconsider and revise the Instructor Basic course curriculum.

2. A considerable increase in the interchange of ideas at the working level among the services is needed. It is recommended that communications be formally installed with the other services for the obvious mutual benefits.

CENTRALIZED INSTRUCTOR TRAINING SCHOOL

The estimated present value of the savings of $321,000 over a five year period is not sufficient justification for an unqualified recommendation to centralize the five eastern sites. There are, however, sufficient scale economies present that long-term expansion of any of the five schools should not be undertaken without a critical reassessment of the implication of such expansion for centralization. The decision to centralize at present must be based upon a more careful evaluation of the qualitative costs and benefits of a centralized school versus the five present sites.

REFERENCES

Aagard, J. A. and Braby, R. Learning Guidelines and Algorithms for Twelve Types of Training Objectives. Manuscript form. Training Analysis and Evaluation Group, Orlando, FL.

Anastasio, E. J. and Morgan, J. S. Factors Inhibiting the Use of Computers in Instruction. 1972. EDUCOM, Interuniversity Communications Council, Inc., Princeton, NJ.

Barr, A. S., Worchester, D., Abell, A., Beecher, C., Jensen, L. E., Peronto, A. L., Ringness, T.A., and Schmid, J. Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness. A summary of investigations. 1961. Dembar Publications,Inc., Wisconsin.

Bolton, D. L. Teacher Evaluation. No. 21 in series of PREP Reports, 1972. U.S. Department HEW/Office of Education.

Braby, R., Henry, J. M., and Morris, C. L., Jr. A Technique for Choosing Cost-Effective Instructional Media. April 1974. Training Analysis and Evaluation Group, Orlando, FL.

Chief of Naval Technical Training. Manual CNTT-A10: Procedures for the Planning, Design, Development and Management of Navy Technical Training Courses. September 1974. Memphis, TN.

CNTECHTRA INSTRUCTION 1540.12, Evaluation of Instruction. 24 January 1973.

CNTECHTRA INSTRUCTION 1540.2, Measurement of Student Achievement. 13 August 1973.

CNTECHTRA letter, Code 34227. Establishment of an NEC for Instructional Technologist. 11 August 1972.

CNTECHTRA letter, Code 0162A. Instructor Training Survey. 24 June 1974.

Dyer, F. N., Ryan, L. E., and Mew, D. V. A Method for Providing Post Formal Training Feedback: Development and Validation. TAEG Report No. 19. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

Enlisted Transfer Manual. NAVPERS 15909-B, Ch. No. 5.22.

Franklin, Instructor Captain J. E. "Instructor Training in the Royal Navy." In Smode, A. F. and Lam, K. D. (Eds.) Proceedings of Conference on Military Instructor Training In Transition. TAEG Report No. 25. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

REFERENCES (continued)

Griswold, E. F. "Instructor Training in the Naval Technical Training Command, Immediate Future Projections." In Smode, A. F. and Lam, K. D. (Eds.) Proceedings of Conference on Military Instructor Training in Transition. TAEG Report No. 25. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

Hall, E. R. and Rizzo, W. A. An Assessment of U. S. Navy Tactical Team Training. TAEG Report No. 18. March 1975. Training Analysis and Evaluation Group, Orlando, FL.

Hallman, R. E. "Telecommunications Permit Global Education of Maintenance Engineers." Telecommunication Journal. 37, VII, 1970. pp. 369-372.

Kerr, Norman J. "A Perspective, Some Dimensions and Concerns for Navy Instructors of the Final Quarter of the Twentieth Century." In Smode, A. F. and Lam, K. D. (Eds.) Proceedings of Conference on Military Instructor Training in Transition. TAEG Report No. 25. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

Knezevich, S. J. Educational Futurism 1985. National Conference of Professors of Educational Administration, 1985 committee. 1971. Berkeley: McCutchan Publishing Corporation.

Loughary, J. W. "The Changing Capabilities in Education." In Designing Education for the Future. New York. Citation Press. 1969.

McGehee, W. and Thayer, P. Training in Business and Industry. New York: John Wiley & Sons, Inc. 1961.

MCA Disco-Vision Video-Disc Catalog Volume 1. 1972. Universal City, CA.

Melching, W. H. and Whitmore, P. G. A Model of the Functions of a Master Instructor. Technical Report 73-23. 1973. Human Resources Research Organization, 300 N. Washington St., Alexandria, VA.

Middleton, M. G., Papetti, C. J., and Micheli, G. S. Computer Managed Instruction in Navy Training. TAEG Report No. 14. 1974. Training Analysis and Evaluation Group, Orlando, FL.

Modrick, J. A. "The Instructor 1975-2000: A Changing Role?" In Smode, A. F. and Lam, K. D. (Eds.) Proceedings of Conference on Military Instructor Training in Transition. TAEG Report No. 25. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

REFERENCES (continued)

NAVPERS 15105-Z, Manual of Navy Enlisted Classifications. July 1974. pp. 232-233.

NEDTRA 93338, "USNS In-Service Training of Instructors," formerly NAVPERS 93338, "A Guide for In-Service Training of Instructors Assigned to Navy Schools." Aug 1964.

Ornstein, A. C. "Systematizing Teacher Behavior Research." Cited in W. Melching and P. Whitmore A Model of the Functions of a Master Instructor. Technical Report 73-23. 1973. Human Resources Research Organization, 300 N. Washington St., Alexandria, VA.

SERVSCOLCOM, NTC, San Diego letter, Code 34.5. Instructor Training Task Analysis; forwarding of. 25 Jul 1972.

Smode, A. F. and Lam, K. D. (Eds.) Proceedings of Conference on Military Instructor Training in Transition. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

Stone, B. G. "Instructor Training Conference Introductory Address." In Smode, A. F. and Lam, K. D. (Eds.) Proceedings of Conference on Military Instructor Training in Transition. TAEG Report No. 25. May 1975. Training Analysis and Evaluation Group, Orlando, FL.

Tracey, W. R. Designing Training and Development Systems. New York: American Management Association, Inc. 1971.

U.S. Air Force ATC form 281, "Instructor Evaluation Checklist," Mar 1973.

U.S. Air Force Manual 39-1 (C9), 2 June 1972. A47-1 - A47-16.

APPENDIX A

SITES VISITED BY TAEG PERSONNEL

Memphis, TN (NAS)
- CNTECHTRA
- NATTC-Instructor Training School

Groton, CT (NAVSUBSCOL)
- Instructor Training Branch
- Engineering Advance Training Division

Newport, RI (NETC)
- Instructor Training School
- Officer Candidate School
- Officer Indoctrination School

Norfolk, VA (FLETRACEN)
- Instructor/Administration School
- ET School

San Diego, CA
- NPRDC
- NITDC

San Diego, CA (SERVSCOLCOM)
- Instructor Training School
- ET "C" School
- BE and E School
- HT "A" School
- Radioman "A" School

Great Lakes, IL (SERVSCOLCOM)
- Instructor Training School
- BE&E School
- PE School
- FT School
- OM/IM Course

Wichita Falls, TX (Sheppard Air Force Base)
- School of Applied Aerospace Science
  - Instructor Training Division
  - Department of Communication and Missile Training
  - Flight Engineers School
- School of Health Care Sciences

Jacksonville, FL
- Southern Bell Plant Training Center

Orlando, FL (SERVSCOLCOM)
- AUW School

APPENDIX B

INSTRUCTOR BASIC COURSE STAFF QUESTIONNAIRE
(WITH TALLY OF RESPONSES)

DIRECTIONS: To be completed by the Director, Senior Education Specialists, Supervisors, Military Instructors, and Civilian Instructors of each Instructor Training (Basic) Course #A-012-011 at San Diego, Great Lakes, Norfolk, Groton, Newport, and Memphis.

HISTORY: This battery of Questionnaires was distributed to each of the six Instructor Basic Courses during September/October 1974. A similar form was issued to each of five groups of the Instructor Basic staffs: Directors, Senior Education Specialists, Supervisors, Military Instructors, and Civilian Instructors. Most questions were common to all groups but many were for select groups only. No effort was made to verify the answers.

The questionnaires were issued for the entire staff and the responses were:

- Directors (6): Memphis (1), Great Lakes (1), Newport (1), San Diego (1), Norfolk (2, Div/Sch), Groton (None)
- Senior Education Specialist (6): Newport (1 - staff), Groton (1 - staff), Norfolk (1 - staff), Great Lakes (1), Memphis (1), San Diego (1)
- Supervisors (7)
- Instructors (civilian) (4)
- Instructors (military) (42)

Total 65 respondents

Question 1: WHAT IS YOUR RANK/RATE/GRADE?

Answer:

Directors: 1-LCDR, 4 LT, 1 ENS
Senior Education Specialists (attached to Instructor Basic Course or Instructor School):
- San Diego - GS-12 (1)
- Great Lakes - GS-12 (1)
- Groton - GS-12 (1 - staff)
- Newport - GS-13 (1 - staff)
- Memphis - GS-11 (1)
- Norfolk - GS-12 (1 - staff)

Supervisors: LTJG, ICC(SS) (E-7), BMC, YNCS (E-8), TMC(SS) (E-7), EMCS, ATCS (E-8)
Instructors Civilian - GS-9 (4)

MILITARY INSTRUCTORS BY RATE IN THE SIX INSTRUCTOR COURSES

Groton	EN1-SS	- Engineman 1/C Sub. Service
	ETN-2-SS	- Electronics Tech. 2/C Sub. Service
	ETC-SS	- Electronics Tech. Chief Sub. Service
	E-7	- Chief (no specialty given)
	FTG-1-SS	- Fire Control Tech. (Gun) 1/C Sub. Service
	ET-1-SS	- Electronics Tech. 1/C Sub. Service
Newport	RMC	- Radioman 1/C
Norfolk	EN-1 (E-6)	- Engineman 1/C
	PC-1 (E-6)	- Postal Clerk 1/C
	OSC (E-7)	- Operations Specialist Chief
	GMG1 (E-6)	- Gunner's Mate (Guns) 1/C
	EOC (E-7)	- Equipment Operator, Chief
	GMGC	- Gunner's Mate (Guns) Chief
	BM1 (E-6)	- Boatswain's Mate 1/C
	EMC	- Electrician's Mate, Chief
	EN-1	- Engineman 1/C
Great Lakes	CEC	- Construction Electrician, Chief
	E-7	- Chief (no rate given)
	IC-1	- Interior Communications Electrician 1/C
	STC (E-7)	- Storekeeper Chief
	MM1SS	- Machinist's Mate 1/C Sub. Service
	BR-1	- Boilermaker 1/C
	MM-1	- Machinist's Mate 1/C
	E-7	- Chief (no rate)
	MMC	- Machinist's Mate, Chief
	EM1	- Electrician's Mate 1/C
Memphis	ATC	- Aviation Electronics Technician Chief
	ADJC	- Aviation Machinist's Mate Chief
	GS-9	- Civilian Instructor
San Diego	CEC (E-7)	- Construction Electrician Chief
	MSGT (E-8)	- Master Sergeant
	HTC (E-7)	- Hull Maintenance Technician Chief
	DP1 (E-6)	- Data Processing Technician 1/C

ETC - Electronics Technician Chief
OSC (E-7) - Operations Specialist, Chief
MMC - Machinist's Mate, Chief
GYSGT - Gunnery Sergeant
FTM-C - Fire Control Tech. (Surface Missile) Chief
DP1 (E-6) - Data Processing Technician 1/C
BTC - Boilerman, Chief
STC - Sonar Technician, Chief
CSC - Commissaryman, Chief

SUMMARY OF INSTRUCTORS (MIL AND CIV) IN THE SIX INSTRUCTOR BASIC COURSES

Rates	Civilians	2/C 2nd Class	1/C 1st Class	CPO CHIEF	SGT
EN			3		
ET		1	1	2	
FT			1	1	
RM				1	
PC			1		
OS				2	
GM			2		
EO				1	
BM			1		
EM			1	1	
CE				1	
IC			1	1	
ST				1	
MM			1		
BR			1		
MM			1	2	
AT				1	
ADJ				1	
HT				1	
DP			2		
SGT					2
BT				1	
ST				1	
CS				1	
E-7 (CPO's, no rate given)				3	
GS-9 (civilians)	4				
25 different rates (Mil) 1 rate (Civ)	4	1	16	22	2

Total: 45

Question 2: HOW LONG HAVE YOU HELD THIS POSITION (YEARS)?

Answer:

Directors: 7 months average (2 months low, 1-1/2 years high)

Senior Education Specialists: 6.9 years average (1/2 year low, 15 years high)

Supervisors (Mil): 1-1/4 years average (2 months low, 3 years high)

Instructors (Civ): 4.4 years average (1 year low, 15 years high)

Instructors (Mil): 1 year 3 months average (1 month low, 3 years 2 months high)

Question 3: WHAT IS YOUR FORMAL CIVILIAN EDUCATION AND TRAINING?

Answer:

Directors:	4 Bachelor Degree 1 completed 3 years 1 No information
Senior Education Specialists:	1 Bachelor Degree 4 Masters Degree 1 No information
Supervisors:	2 Bachelor Degree 3 1 to 3 years college 2 high school
Civilian Instructors:	3 Bachelor Degree
Military Instructors:	75 percent high school or GED 11 percent some college 1 with college degree Completed average of: 1-1/2 A School, 1 B School, 4-1/2 C School

Question 4: WHICH OF THE FOLLOWING NAVY COURSES HAVE YOU ATTENDED?

Answer:

Director:	2 Navy Schools Administration (Management) 1 Navy Supervisor Training (Management and Supervision) 6 Navy Instructor Training (Basic Instructor Training Course)
Senior Education Specialists:	4 Navy Schools Administration (Management) 3 Navy Supervisor Training (Management and Supervision) 5 Navy Instructor Training (Basic Instructor Training Course)
Supervisors:	3 Navy Schools Administration (Management) 3 Navy Supervisor Training (Management and Supervision) 7 Navy Instructor Training (Basic Instructor Training Course) 2 Other

Question 5: WHAT IS YOUR CIVILIAN TEACHING EXPERIENCE?

Answer:

Directors:	One has taught high school
Senior Education Specialists:	One has not taught, 3 taught high school, 3 college full- or part-time
Supervisors:	One taught high school
Civilian Instructors:	All have taught 1 elementary school 3 high school 1 college
Military Instructors:	None have taught civilian schools

Question 6: WHAT IS YOUR MILITARY TEACHING EXPERIENCE (EXCLUSIVE OF INSTRUCTOR SCHOOL)?

Answer:

Directors:	1 Director District School Command 1 Assistant Director ASW (Technical) School 1 School Director 1 taught GED 1 Education Service Officer
Senior Education Specialists:	Defense Language Instructor 2 years shipboard instructor 1 year Navy Science and Tactics 15 years Naval Reserve Elementary school 3 years
Supervisors: (other than Instructor School)	1 year shipboard 4 years Class "B" School Shipboard
Civilian Instructors:	3 years "A" School (1) 1 year "C" School (1) 1 year "O" School (1) Shipboard instructor (3)
Military Instructor:	Average 2.5 years "A" School 2 years "B" School 3.4 years "C" School 6.1 years shipboard teaching 4.4 years miscellaneous

Question 7: ARE YOU RETIRED MILITARY? (ASKED OF CIVILIAN STAFF ONLY)

Answer:

Senior Education Specialists:	Yes - 2 No - 3
Civilian Instructors:	Yes - 1 No - 3

Question 8: ARE YOU EX-MILITARY (NOT RETIRED)? (ASKED OF CIVILIAN STAFF ONLY)

Answer:

Senior Education Specialists:	Yes - 2 No - 2
Civilian Instructors:	Yes - 2 No - 2

Question 9: WERE YOU EVER AN INSTRUCTOR IN THIS COURSE (INSTRUCTOR BASIC)? (ASKED OF SUPERVISORS ONLY)

Answer:

Yes - 7
No - 0

Question 10: IF YES, FOR HOW LONG (YEARS)?

Answer:

Years: 1.5 years average

Question 10A: WHAT PHASE(S) OF INSTRUCTOR BASIC COURSE DO YOU TEACH? (ASKED OF MIL/CIV INSTRUCTORS ONLY)

Answer:

		Civilian	Military	Total
a.	Common Core		21	21
b.	Traditional Track		27	27
c.	Individualized Learning Supervisor Track		4	4
d.	All Phases	4	11	15

Question 11: THE PERSONNEL STAFF OF THIS COURSE (INSTRUCTOR BASIC) CONSISTS OF:

Answer: (Following is total of the six Instructor Basic course staffs)

Military: 6 Directors, 6 supervisors (5 enlisted, 1 officer*), 43 instructors (42 enlisted, 1 officer*)

Civilian: 4 instructors, 6 Senior Education Specialists (on board or allowed), 1 supervisor

* At Newport only

Question 12: ESTIMATE THE NUMBER OF HOURS PER WEEK YOU SPEND? (ASKED OF MIL/CIV INSTRUCTORS ONLY)

Answer:

	3 respondents CIV (Average)	35 respondents MIL (Average)	TOTALS (Average)
a. With class (instructing)	33 hrs.	21.5 hrs.	27.2 hrs.
b. Class preparation time	2.6 hrs	8.8 hrs.	5.7 hrs.
c. Administrative duties	.6 hrs.	6.8 hrs.	3.7 hrs.
d. Other	-	*	*

*Other (Mil only) (individual comments)
Communications School (2 hrs)
Repair/Maintenance of Cryptographic equipment
Counseling (2 hrs)
Meetings (2 hrs)
Evaluating (2 hrs)
Curriculum Development (8 hrs)
Instructor Guide Revision
Leave
Course Writing (another course) (20 hrs)
Practice Teaching Evaluation (8 hrs) (11 hrs) (14 hrs) (10 hrs)
TV Operational (16 hrs)
Observing Classes
Developing a PI pkg (10 hrs for 6 mos)
Duty Instructor (6 hrs)
Base Duty every 20 days
Instructor Guide preparation/train new instructors

Question 13: DID YOU REQUEST THIS TOUR OF INSTRUCTOR DUTY? (ASKED OF MILITARY INSTRUCTORS ONLY)

Answer:
Yes - 31
No - 11

Question 14: IF YES, DID YOU REALLY VOLUNTEER AS FIRST CHOICE (REAL) OR WAS IT AN EITHER-OR SITUATION SUCH AS "DO YOU WANT INSTRUCTOR DUTY OR GO TO GREENLAND?" (ASKED OF MILITARY INSTRUCTORS ONLY)

Answer:
Real 28
Either-Or 2

Question 15: WERE YOU SELECTED BY THE INSTRUCTOR SCHOOL STAFF FOR DUTY TEACHING THIS COURSE? (ASKED OF MILITARY INSTRUCTORS ONLY)

Answer:
Yes - 31
No - 11

Question 16: IS THIS YOUR FIRST OR SECOND TOUR OF TEACHING THE INSTRUCTOR TRAINING COURSE? (ASKED OF MILITARY INSTRUCTORS ONLY)

Answer:
First - 40
Second- 0

Question 17: WHEN ELIGIBLE DO YOU PLAN TO REQUEST ANOTHER TOUR TEACHING AN INSTRUCTOR COURSE? (ASKED OF MILITARY INSTRUCTORS ONLY)

Answer:
Yes - 26
No - 15

Question 18: DO YOU FEEL YOU ARE LOSING YOUR TECHNICAL EXPERTISE (e.g., ELECTRONICS, MECHANICS, ETC.) BY THIS INSTRUCTOR BASIC TOUR? (ASKED OF MILITARY INSTRUCTORS ONLY)

Answer:
Yes - 23
No - 19

Question 19: WHAT DEGREE OF SATISFACTION DO YOU DERIVE FROM YOUR PRESENT JOB? (ASKED OF SUPERVISORS, MILITARY AND CIVILIAN INSTRUCTORS)

Answer:

	Supervisors	Civilian Instructors	Military Instructors	Total
Great Deal	7	3	38	48
Moderate	0	1	4	5
Little	0	0	0	0

Question 20: DO YOU FEEL THIS JOB LEADS TO FASTER PROMOTION? (ASKED OF SUPERVISORS AND INSTRUCTORS ONLY)

Answer:

	Civilian	Military	Totals
Yes	4	12	16
No	0	36	36

Question 21: DO YOU BELIEVE THAT ASSIGNMENT TO YOUR PRESENT DUTY HAS: (ASKED OF MILITARY SUPERVISORS AND MILITARY INSTRUCTORS ONLY)

Answer:

		Supervisors	Military Instructors	Total
a.	Classified you as a "2nd Class Citizen"?	0	0	0
b.	Is the lowest point in your career?	0	1	1
c.	Enhances your status, prestige, and career?	7	41	48

Question 22: ALL OTHER FACTORS BEING EQUAL, DO YOU THINK THAT MILITARY INSTRUCTORS OR CIVILIAN INSTRUCTORS HAVE MORE TO OFFER IN THIS (INSTRUCTOR BASIC) COURSE?

A combination of Directors, Senior Education Specialists, Supervisors, Instructors (civilian and military) yielded the following totals:

Answer: 45 men preferred military instructors
5 men preferred civilian instructors
12 men said "no difference"

Question 23: IF MILITARY WAS YOUR CHOICE (FOR QUESTION 3), FOR WHAT REASONS? (CHECK ONE)

Answer:

a. Better rapport with students (32)
b. Understand military problems better (35)
c. Shorter tours prevent staleness (17)
d. Students relate better (26)

Question 24: IF CIVILIAN WAS YOUR CHOICE, GIVE REASON. (CHECK ONE OR MORE)

Answer:

a. They are better trained to teach (3)
b. They don't have military distractions (4)
c. They are permanent (3)
d. Other

Question 25: DO YOU THINK THE SIX BASIC INSTRUCTOR TRAINING COURSES SHOULD BE COMBINED INTO FEWER LOCATIONS?

Answer:

Yes	30
No	21
No opinion	12

Question 26: IF YES, WHAT LOCATIONS?

Answer:

East and West Coast	8
East, Central, West Coast	13
San Diego, Memphis, Groton, or Newport	4
One location only at a Central Academy	6

Question 27: DO YOU RECOMMEND A CONFERENCE (WITH A REPRESENTATIVE FROM EACH "IT" COURSE) TO REVIEW THE NEW CURRICULUM AFTER IT HAS BEEN IN EFFECT FOR SIX MONTHS?

Answer:

Directors	5 to 1 in favor
Senior Education Specialists	100 percent in favor
Supervisors	5 to 2 in favor
Civilian Instructors	100 percent in favor
Military Instructors	40 to 2 in favor
Overall	58 to 5 in favor

Question 28: WHO SHOULD REPRESENT YOUR "IT" COURSE AT THIS CONFERENCE?

Answer: The bulk of responses equally recommended sending the enlisted instructor, enlisted supervisor, and the course education specialist to represent their school at the Workshop. Military instructors preferred sending military. Military supervisors were equally divided in being represented by themselves or the course education specialist. Civilian instructors wanted equal representation for themselves and the military; senior education specialists preferred equal representation with military supervisors; and Directors preferred military supervisors with a partial representation by the senior education specialist.

NOTE: January 17, 1975, an Instructor Training Workshop Planning Conference was held by TAEG at Orlando, attended by:

LCDR G. B. Griffin (TPC) CNTT
E. Griswold (Ed Spec) CNTT
R. Coolidge (Ed Spec) CNTT
CDR J. Bustard, NATTC Memphis
B. Kissel (Ed Spec) NATTC Memphis
J. Fasy (Ed Spec) Great Lakes
J. Hudak (CPO) NAVSUBSCOL Groton
E. Trapp (Ed Spec) SSC San Diego
Dr. J. Bow (Ed Spec) NETC Newport
LCDR S. Tobey, Human Resource Management Memphis
C. Hoofnagle (Ed Spec) FTC Norfolk, VA
K. Lam (Psychologist) TAEG
C. J. Papetti (Ed Spec) TAEG, Chairman

Question 29: HAVE YOU EVER CONTACTED ANOTHER INSTRUCTOR COURSE TO EXCHANGE INFORMATION? (ASKED OF DIRECTORS, SENIOR EDUCATION SPECIALISTS, SUPERVISORS ONLY)

Answer:

	Yes	No
Directors	3	3
Senior Education Specialist	5	0
Supervisors	6	0
TOTAL	14 (82%)	3 (18%)

Question 30: IF YES, HOW? (RESPONSE TO QUESTION 29)

Answer:

	Director	Senior Education Specialist	Supervisor
By Visit	0	2	3
By Phone	3	5	6
By Mail	1	3	3
How Often	monthly	4/yr (one) 2/yr (one)	
Months since last visit?		2 yrs (one)	1 mo (one) 30 mos (one)

Question 31: WHICH AREA OF THE NEW (CURRENT) INSTRUCTOR BASIC COURSE CURRICULUM IS MOST IN NEED OF REVISION?

Answer:

		Total Staff
a.	None	17
b.	Distribution of hours per topic	18
c.	Need new topics	17
d.	Need to delete specific topics	13
e.	Other: Adult Learning Process Norm-Referenced Tests Guided Group Discussion Instructional Accountability Use Criterion Test for Practice Teaching only	

Question 32: ARE YOU ABLE TO MAKE IMPORTANT CHANGES TO THE INSTRUCTOR BASIC CURRICULUM? (ASKED OF DIRECTORS AND SENIOR EDUCATION SPECIALISTS ONLY)

Answer:

		Director	Senior Education Specialist	Total
a.	Yes, with great delay and difficulty	2	1	3
b.	Yes, with routine delay and difficulty	1	3	4
c.	No	0	1	1

Question 33: DO YOU FEEL THE NEW (CURRENT) CURRICULUM REFLECTED THE INPUTS AND WISHES OF YOUR SCHOOL WHEN WRITTEN?

Answer:

	Director	Senior Education Specialist	Supervisor	Civilian Instructor	Military Instructor	Total
Yes	1	1	2	0	12	16
No	3	3	2	3	12	23
Don't Know	0	1	3	1	18	23

Question 34: DO YOU HAVE ANY RECOMMENDATIONS TO MAKE CONCERNING REVISION OF THE INSTRUCTORS' SELECTION PREREQUISITES (ENLISTED TRANSFER MANUAL, NAVPERS 15909B, SECTION 5.22)?

Answer:

a. FOR ILS, OMIT PREREQUISITE "BE ABLE TO SPEAK CLEARLY"
3 enlisted instructors said Yes.

b. RAISE 3.4 PERFORMANCE EVALUATION REQUIREMENT
Half the Directors and almost half the supervisors said Yes.
30 percent of total answers were Yes.

c. LOWER 3.4 PERFORMANCE EVALUATION REQUIREMENT
Zero out of 64 staff said Yes.

d. REQUIRE INDIVIDUALS TO VOLUNTEER FOR INSTRUCTOR DUTY
40 percent of staff said yes. Directors said Yes by 4:2.

e. RECOMMEND TEST SCORE PROFILE BE USED TO SCREEN POTENTIAL INSTRUCTORS
Supervisors 4:3, 2 of 5 senior education specialists, and 9 of 42 military instructors (or 21 percent) said Yes.
Overall 25 percent of staff said Yes.

f. NO REVISION NECESSARY
Over 12 percent of total choices for this one.

g. OTHER
No response.

h. NOT FAMILIAR WITH THIS DIRECTIVE
No response.

Question 35: DO YOU HAVE RECOMMENDATIONS TO MAKE CONCERNING REVISION OF THE INSTRUCTOR QUARTERLY EVALUATION INSTRUCTION CNTT 1540.12?

Answer:

a. EVALUATION FORM TOO SUBJECTIVE
7 percent of total answers.

b. EVALUATION FORM TOO SUBJECT TO RATER BIAS
7 percent of total answers.

c. EVALUATION FORM NEEDS TO BE MORE QUANTIFIED
15 percent of total answers.

d. EVALUATION FORM NOT RELEVANT FOR ILS
11 percent of total answers.

e. NO REVISIONS NECESSARY
Over 47 percent of total answers.

f. OTHER
11 percent of answers were comments below:

Need 3 forms: Platform, ILS, Lab
Need evaluation of instructional materials added
Need evaluation of summaries
Need evaluation of application
Need evaluation of assignments
Not useful for lab/shop
Not specific enough

Question 36: WHAT ARE THE TRAITS OF INSTRUCTOR TRAINING COURSE INSTRUCTORS WHOM YOU CONSIDER TO BE VERY SUCCESSFUL IN TEACHING THE TRADITIONAL CLASS (PLATFORM, LECTURE/DEMONSTRATION)?

Answer:

a. Volunteered to teach: 65 percent of staff
b. Have a good speaking voice: 82 percent of staff
c. Are well prepared with lesson: 85 percent of staff
d. Are devoted to teaching: 79 percent of staff
e. Other:

Positive attitude
Top notch P.O.
Willing to help students
Relates with people
Must have remaining tour after Instructor School
1/C or above
Career oriented
Assists others
Regards others feelings
Rapport with students
Good listener
Curious intellect
Patient
Pleasing personality
Counseling experience

- Motivated
- Has common sense
- Keeps the school mission in mind
- Has imagination
- Be human
- Willing to help student and staff achieve objectives
- Honest with students
- Outstanding military appearance
- Deals with hostility
- Knows human needs/goals
- Dynamic worker with students
- Trained formally in communication skills
- Must want to teach
- Willing to make effort
- Concerned with others
- Maintains strong military bearing and rapport with class
- 4.0 Navy appearance
- Tact and bearing
- Likes to read
- Upper half of Instructor class
- Desires college
- Devotion
- Enthusiasm
- Showmanship
- Volunteer best (but not always)
- Rounded personality
- Communicates effectively
- Relates to all levels of knowledge
- Flexible personality
- Relatively outspoken
- Professional military attitude
- Professional academic attitude
- Open minded
- Willing to learn/improve
- Cares about his job whether teaching or otherwise

Question 37: WHAT ARE THE TRAITS OF "IT" COURSE INSTRUCTORS WHOM YOU CONSIDER POOR OR FAILURES IN PLATFORM TEACHING (TRADITIONAL, LECTURE/DEMONSTRATION)?

Answer: Answers were of the opinion type as follows:

- Don't want to teach
- Are slow learners
- Don't like to help slow learners
- Have "do as I say, not as I do" attitude
- Too authoritarian
- Low GCT
- Poor attitude
- Poorly qualified
- Lack of interest
- Poor voice
- Poor preparation
- Ordered to teach
- Doesn't understand students
- No sense of humor
- Poor motivation
- Wastes class time
- Lacks ability to use methods/ techniques
- Lacks maturity
- Personal problems interfere w/job
- Not tactful
- Feels superior to student
- Not self confident
- Can't relate to slow learners
- Has a "God" complex
- Does not accept constructive criticism
- Doesn't like students
- Not a volunteer
- Negative attitude of short timers
- Poor vocabulary
- Poor attitude towards Navy or school
- Poorly educated
- Is an "8 to 4 man"
- Sloppy appearance
- Non-professional
- Not hand picked

NOTE: Three respondents claimed they "had no poor instructors."

Question 38: WHAT ARE THE TRAITS OF INSTRUCTOR TRAINING COURSE INSTRUCTORS WHOM YOU CONSIDER BEING SUCCESSFUL IN TEACHING THE SELF-PACED, INDIVIDUALIZED LEARNING SUPERVISOR TRACK OF THE "IT" BASIC COURSE?

Answer:

a. Must be a volunteer to teach: 18 percent of total answers
b. Must be skilled in academic counseling: 13 percent of total answers
c. Must be well prepared with lesson: 11 percent of total answers
d. Must be devoted to teaching: 13 percent of total answers
e. Must know his subject well: 16 percent of total answers
f. We do not have this type class: 15 percent of total answers
g. Other: 11 percent of total answers listed as follows:

1. Must be able to communicate with others, expressing ideas clearly and forcefully, having a good command of the English language, both orally and in writing.
2. Must be able to discriminate between individual differences in human beings and the learning environment, analyzing problem areas and assisting in remedies to alleviate them.
3. Must be attentive.
4. Must be a good listener.
5. Must be able to empathize.
6. Must be able to remain calm and unflustered under pressure.
7. Must never get angered at others.
8. Must never let personal opinions or other emotions interfere with the learning activities of the learners, especially in academic and personal counseling sessions.
9. Must believe in the self-paced concept.

Question 39: DOES THE DIRECTIVE (CNTECHTRAINST 5311.1A COMPUTATION OF INSTRUCTOR REQUIREMENTS) USED TO DETERMINE THE QUANTITY OF INSTRUCTORS AND SUPERVISORS, ALLOCATE SUFFICIENT PERSONNEL? (ASKED OF DIRECTORS, SUPERVISORS, AND SENIOR EDUCATION SPECIALISTS)

Answer:

Yes	6
No	11

TAEG Report No. 71

APPENDIX C

ORIGIN AND DESTINATION OF TRAINEES FOR FY 1974 QUESTIONNAIRE

DATE _____

COURSE TITLE* _____
COURSE LOCATION _____
COURSE CATALOG NO. _____

Location of Last Duty Station (Show totals from each location)**	Location of Assignment Upon Termination or Graduation (Show totals going to each location)**

* Use separate sheet for each course: Instructor Basic, Navy Schools Management, Programmed Instruction Techniques, Instructor Shipboard, and Management and Supervision, plus other formal courses taught by the same staff.

** Give major city only which will permit computation of travel costs. Example: 21 from San Diego; 30 to Great Lakes.

81/82

APPENDIX D

TOTAL PERSONNEL REQUIREMENTS FOR INSTRUCTOR TRAINING SCHOOL QUESTIONNAIRE*

School (Courses) Location _____

_____

1.	Man-Years Devoted to All Courses* (FY 1974) Combined
Director ("IT" School)	
Senior (Lead) Instructors	
Instructors (Civilian or Military)	
Secretarial	
Other	

2. Number of Students on Per Diem During FY 1974 (Total all courses)	
3. Total Enrollment (all courses)** FY 1974: INPUT	
OUTPUT	
4. Predicted Annual INPUT (Total all courses): FY 1975	
FY 1976	
FY 1977	
FY 1978	
FY 1979	

* School Includes: Instructor Basic, Navy Schools Management, Programmed Instruction Techniques, Instructor Shipboard, Management and Supervision Courses.

** Output more than Input as four classes in session before the FY.

83/84

APPENDIX E

STUDENT ORIGIN AND DESTINATION QUESTIONNAIRE

COURSE NAME _____
COURSE LOCATION _____

1. Student's Name _____ Rate _____

2. Prior to reporting to Instructor School were you stationed on a ship?

   Yes _____
   No _____

   If yes: What was name of ship? _____

   What was home port of ship? _____

   Did you travel to "IT" School from home port? Yes _____ No _____

   If no, what was nearest city from which you traveled to "IT" School? _____

3. If you were not stationed on a ship, what was the location of your last duty station prior to reporting to Instructor Training School?

   _____

4. Method of transportation by which you traveled to your present location from your last duty station.

   a. Commercial airplane _____
   b. Military airplane _____
   c. Other (specify): _____

5. Cost of transportation to government (if known) _____

6. Are you receiving per diem while you are attending this course?

   a. Yes _____
   b. No _____

   If yes, what is the amount per day? _____

   Total days you will be on per diem? _____

7. To which location will you report after completion of this course?

   a. City (nearest) _____
   b. Duty station (if different from city) _____

8. Date you filled out this questionnaire _____

APPENDIX F

INSTRUCTOR SELECTION SURVEY

1. Which tour of instructor duty are you now serving? (Check one)

First _____ Second _____ Third _____

2. Which tours of instructor duty did you request? (Check one or more)

First _____ Second _____ Third _____

Did not request instructor duty _____

3. If you did not request instructor duty, why do you think you were assigned? (Check one or more)

By chance _____
CO recommended me _____
Due to my technical expertise _____
Due to lack of volunteers _____
Do not know the reason _____
Other (please explain below) _____

_____

_____

_____

4. If you did request instructor duty, please rate the importance of the following factors in your decision to volunteer for instructor duty: (Put a check in the appropriate box)

	Very important	In-between	Not important at all
Location of duty			
Prestige of duty			
Enjoy teaching			
Nothing better available			
Length of tour			

5. Did you attend instructor training school? Yes _____ No _____

If yes, where: _____

when: _____

6. When eligible, do you plan to request another tour of instructor duty?

Yes _____ No _____ Don't know _____

Please explain your answer: _____

_____

_____

_____

7. What is your civilian educational background? (Circle highest year completed)

High School: 9 10 11 12 GED

College: 1 2 3 4

8. What is your military educational background?

"A" Schools completed: _____

"B" Schools completed: _____

"C" Schools completed: _____

9. Name _____

NEC _____

Rank _____

APPENDIX G

COURSES TAUGHT BY INSTRUCTOR TRAINING SCHOOLS UNDER CNTECHTRA

Course No.	Title	Course Length (Days)	San Diego	Groton	Norfolk	Memphis	Great Lakes	Newport
A-012-0011	Instructor Basic	20	X	X	X	X	X	X
A-012-0023	Instructor Shipboard	10	X	X*	X			
A-012-0036	Programmed Instruction Techniques	19	X		X	X	X	
A-012-0028	Management and Supervision	10	X			X	X	
A-7B-0010	Navy Schools Management	10	X			X	X	
A-012-0033	Submarine Training System	4		X				
A-7B-0015	School Administration of Programmed Instruction	5					X	
F-00-014	Officer Instructor Indoctrination	5		X				

*To start in 1975

APPENDIX H

PERSONNEL CONTACTS IN MILITARY INSTRUCTOR TRAINING

NAME AND TITLE	ADDRESS	PHONE NO.
U. S. NAVY		
CNET		
Stone, CAPT Bruce G. Assistant Chief of Staff Research and Program Development	CNET, Code N-5 Pensacola, FL 32508	AV 922-4396
Scanland, Dr. Worth Deputy Director Research and Program Development	CNET, Code N-5A Pensacola, FL 32508	AV 922-3466
Muller, Richard Head, ISD, Standards, Procedures & Appraisal Br.	CNET, Code N-52 Naval Air Station Pensacola, FL 32508	AV 922-4497
Gager, Dr. William A., Jr. Director, Defense Activity for Non-Traditional Educational Support (D.O.D.)	CNET, Ellyson Center Pensacola, FL 32509	AV 922-1360
TAEG		
Papetti, Clarence J. Education Specialist	Traning Analysis and Evaluation Group, Orlando, FL 32813	AV 791-4367
Lam, Karen D. Psychologist	Training Analysis and Evaluation Group Orlando, FL 32813	AV 791-5673
Swope, Dr. William M. Economist	Training Analysis and Evaluation Group Orlando, FL 32813	AV 791-4367
CNETS		
Havens, Dr. C. B. Research Plans and Evaluation Branch	CNETS, Code N-21 Pensacola, FL 32509	AV 922-1392

CNTECHTRA

Coolidge, Robert Training Program Coordinator for Instructor Training Courses	CNTECHTRA, Code 441 Memphis, TN 38054	AV 966-5571
Griswold, E. F. Training Methods, Task Analysis	CNTECHTRA, Code 01621 NAS Memphis (75) Millington, TN 38054	AV 966-5591
Kerr, Dr. Norman Research	CNTECHTRA, Code 0161 NAS Memphis (75) Millington, TN 38054	AV 966-5593

NATTC

Bustard, CDR Francis Officer in Charge Navy Management Schools Group	NATTC, Code 59 Memphis Millington, TN 38054	AV 966-5525/ 5349
Kissel, Bernard Senior Education Specialist, Navy Management Schools Group	NATTC, Memphis Millington, TN 38054	AV 966-5525/ 5349
Tobey, LCDR Stephen Human Resources Management School	Human Resources Management School Memphis (96) Millington, TN 38054	AV 966-5156

Instructor Training Schools:

1. Memphis Land, LT T. R. Training Officer	Instructor Development Management School NATTC, Memphis Millington, TN 38054	AV 966-5536
Frego, Mr. George A., Jr. Education Specialist	Instructor Development Management School NATTC, Memphis Millington, TN 38054	AV 966-5536
2. San Diego Vonwontoch, CDR Dept. Hd. Pers.	Personnel Management Schools SERVSCOLCOM, NTC San Diego, CA 92133	AV 957-3626
Crawford, LT Director	Instructor Training School SERVSCOLCOM, NTC San Diego, CA 92133	AV 957-3626

Trapp, Ed Education Specialist IT School Personnel Management Schools Department	Instructor Training School SERVSCOLCOM, NTC San Diego, CA 92133	AV 957-3627
3. Norfolk Wilson, LT Lona Director	Instructor/Administration School FLETRACEN Norfolk, VA 23511	AV 690-2980
Hoofnagle, Charles Education Specialist	FLETRACEN, Code F7D Norfolk, VA 23511	AV 690-4817
4. Great Lakes Madlock, LTJG Cleve Director	Instructor Training School Bldg. 512, SERVSCOLCOM, NTC Great Lakes, IL 60088	AV 792-4975
Fasy, J. J. Education Specialist IT School	Instructor Training School Bldg. 512, SERVSCOLCOM, NTC Great Lakes, IL 60088	AV 792-4975
5. Groton Hudak, CPO James Senior Instructor IT School	NAVSUBSCOL, Code 0141 P. O. Box 700 Groton, CT 06340	AV 241-4802/ 4647
6. Newport Drylie, LCDR James Director	Instructor Training School NETC Newport, RI 02840	AV 948-3396
Bow, Dr. John Education Specialist Command Educational Advisor	Code 008, Naval Education and Training Center Newport, RI 02840	AV 948-3821
NPRDC		
Ford, Dr. John	Navy Personnel Research and Development Center San Diego, CA 92152	AV 933-7121/ 7194
Jones, Dr. Earl	Navy Personnel Research and Development Center San Diego, CA 92152	AV 933-7100/ 7105
Smith, Dr. John	Navy Personnel Research and Development Center San Diego, CA 92152	AV 933-7122
Hooprich, Eugene	NPRDC Liaison Officer CNET, Code 01H Pensacola, FL 32508	AV 922-2621

ONR

Farr, Dr. Marshall	Office of Naval Research 800 N. Quincy St. Arlington, VA 22217	AV 222-4504/ 4502 4503

ILDG

Evans, Mel Education Specialist	Individualized Learning Development Group, SSC, NTC San Diego, CA 92133	AV 957-4523

U.S. ARMY

TRADOC

Kanner, Dr. Joseph Deputy Chief of Staff for Training, Educational Advisor	Commander U.S. Army Training and Doctrine Command Deputy Chief of Staff for Training Attn: Educational Advisor Ft. Monroe, VA 23651	AV 680-2765/ 3970

Ft. Benning

Maddox, Maj.	Combat Arms Training Board Ft. Benning, GA 31905	AV 835-5277
Rutherford, Col. B. E. Director of Educational Technology	U. S. Army Infantry School Ft. Benning, GA 31905	AV 835-3841

Ft. Knox

Shumate, Dr. Norman Chief of Faculty Development Branch	Assistant Commandant U.S. Army Armor School, ATTN: ATSY-EA Ft. Knox, KY 40121	AV 464-6154

Ft. Monmouth

Cieri, Dr. Vincent P. Education Advisor	Commandant U. S. Army Communications Electronics School, ATTN: ATSY-EA Ft. Monmouth, NJ 07703	AV 992-1838 1722
Ripendelli, Mr. Chief, Faculty Development Branch	Faculty Development Branch ATSY-EA-FD Ft. Monmouth, NJ 07703	AV 992-2353

Ft. Eustis

Darst, Dr. H. Jackson Special Assistant Educational Advisor	Special Assistant Educational Advisor U.S. Army Transportation School Ft. Eustis, VA 23604	AV 927-4400

Ft. Rucker

Newsome, Clarence Senior Education Advisor Department of Instruction	Commanding General U.S. Army Aviation Center ATTN: ATZQ-EA Ft. Rucker, AL 36360	AV 558-2714

Ft. Benjamin Harrison

Edmiston, A. C. Chief of Instructional Technical Division	Deputy Commander, USAIA ATTN: ATSG-EA Ft. Benjamin Harrison, IN 46216	AV 699-3693

U.S. MARINE CORPS

HQ, USMC

Dorman, Maj D.	Headquarters, U.S. Marine Corps MTMT 52 Washington, DC 20380	AV 224-?140

M.C.D.E.C.
Quantico

Perea, Col H. E. Director of Education Center	Director of Education Center M.C.D.E.C. Quantico, VA 22134	AV 278-2304
Roush, Lt Col Paul	Academic Department Education Center M.C.D.E.C. Quantico, VA 22134	AV 278-2304
Morris, Lt Col Calvin Director	IT School, Education Center M.C.D.E.C. Quantico, VA 22134	AV 278-2193

U.S. AIR FORCE

ATC, Randolph

Elliott, SGT Clifford Course Manager Technical Instructor Training	ATC/TTSE Randolph AFB, TX 78148	AV 487-3560

Sheppard AFB

Beck, MAJ Gordon Division Chief Instructor Training Division	Instructor Training Division School of Applied Aerospace Science (TTM) Sheppard AFB Wichita Falls, TX 76311	AV 736-2343

Lowry AFB

Harding, Dr. Larry	Human Resources Laboratory Lowry AFB, CO 80230	AV 926-4385/ 4386
Boland, MAJ Joe Chief, IT School	School of Applied Aerospace Sciences Lowry AFB, CO 80230	AV 926-4215

Maxwell AFB

Tadlock, LTC Carl E.	AIAOS - EDCM, Maxwell AFB Montgomery, AL 36112	AV 875-5219

ROYAL NAVY

Franklin, J. E. Instructor Capt. Deputy Director (Pers.) Naval Ed. Serv.	Ministry of Defence, (DNEds) Old Admiralty Bldg. Spring Gardens, London SW1A2BE	01-218-2503
Daniels, W. J. Instructor CDR Computer Project Officer	NATO H.Q., SECLANT Norfolk, VA 23511	COMM. (804) 444-5711
Dow, CDR D. M. Admiral's Secretary	Office of the Commander British Navy Staff P.O. Box 4855 Washington, DC 20008	AV 222-0006/ 0007/ 0008/ 0009

APPENDIX I

SAMPLE FEEDBACK LETTER AND INSTRUCTIONS TO TRAINEE/SUPERVISOR[1]

From: Curriculum Update Division _____School
To: Seaman _____

Subj: Field Evaluation of _____ School Training

Encl: (1) Field Evaluation Materials

1. At one of your last classes in school the important task you can perform in the identification of training problems was discussed. At this time, we are asking you to aid us in this task since you have probably been on the job long enough to have developed a good understanding of your duties and the training needed to perform them.

2. The enclosed materials make it possible for you to indicate whether too much or too little emphasis was given to any of the various tasks covered in school. On the final page of this questionnaire we request that you indicate job tasks that are not presently covered in school, but which should be covered in the future. Throughout your completion of these materials we hope you will write down any thoughts you may have about training problems, recommendations for their solution, and any other aspects of school training.

3. Please return these materials in the enclosed envelope within two weeks, if possible. This information will aid us to provide better training of _____ in the future.

Chief Petty Officer _____

[1] Extracted from Dyer, Ryan and Mew, 1975.

INSTRUCTIONS TO TRAINEE FOR COMPLETING RATING SCALES

On the following pages tasks are listed which received at least some emphasis in school. Please rate each task on the two scales at the right of the task by circling the most appropriate number. On the "Frequency of Task" scale, select the category that corresponds most closely to the actual frequency with which this task is performed by you in your present assignment.

On the "Adequacy of School Training for This Task" scale, select the most appropriate of the following categories:

1. Task requires much more emphasis in school.
2. Training less than adequate for task, increase emphasis.
3. Training adequate for task.
4. Training more than adequate for task, reduce emphasis.
5. Greatly reduce or eliminate training for this task.

(You may skip this "Adequacy" rating for a particular task if that task is never performed and you do not feel you can rate adequacy of training for it.)

In making this rating consider such things as the following:

- Problems you may have had performing this task when first required to do it,
- The amount of time that was required by your supervisor or others at your unit to bring you "up-to-speed" on the task,

- Whether, for some reason, the task <u>should</u> have been learned on-the-job instead of in school, and
- Whether learning to perform this task in school does not help you in your present job or will not help you in the foreseeable future.

Also consider that school training is expensive and must be used only for essential tasks. On the other hand, remember that operational units have many other functions to perform besides on-the-job training.

As you can see, the rating of training adequacy is not simple. We are asking you to do this since you hold two views of the world that are critical for judging the adequacy of training. One view is of school training as it exists for the student and the other view is of the requirements of your present job. These unique perspectives of yours make your careful ratings invaluable to us!

Although we have already asked you to consider existing school training in great detail, there is one more very important job you can do for us. We need to know what things presently are NOT taught in school but should be taught there. Consider things you have had to learn on the job with much loss of time for both you and your supervisors. Also consider tasks you still cannot perform because you did not learn them in school and because it has not been possible to train you on the job. Please do this carefully and thoughtfully. As a school graduate working in the job you were trained to do, you are in a unique position to identify those things which are almost certain to be missing from school.

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

4. _____

_____

_____

SAMPLE LETTER TO SUPERVISOR

From: Curriculum Update Division _____ School
To: Supervisor of Seaman _____

Subj: Field Evaluation of _____ School Training

Encl: (1) Field Evaluation Materials

1. As an experienced person in your rating and a supervisor of a recent school graduate, you are in an ideal position to tell us whether our graduates are meeting job requirements at your unit. The enclosed materials make it possible for you to indicate whether too much or too little emphasis was given to any of the various tasks covered in school. On the final page of this questionnaire we request that you indicate job tasks that are not presently covered in school, but which should be covered in the future. Throughout your completion of these materials, we hope you will write down any thoughts you may have about training problems, recommendations for their solution, and any other aspects of school training.

2. Please return these materials in the enclosed envelope within two weeks, if possible. This information will aid us to provide better training of _____ in the future.

3. If you have recently completed field evaluation materials for _____ School, there is no need to complete these unless you have some additional recommendations. However, we would appreciate if you would pass these materials on to some other experienced _____ who is familiar with the above person's work.

Chief Petty Officer _____

INSTRUCTIONS TO SUPERVISOR FOR COMPLETING RATING SCALES

On the following pages tasks are listed which received at least some emphasis in school. Please rate each task on the two scales at the right of the task by circling the most appropriate number. On the "Frequency of Task" scale, select the category that corresponds most closely to the actual frequency with which this task is performed by the recent school graduate that you supervise in your present assignment.

On the "Adequacy of School Training for This Task" scale, select the most appropriate of the following categories:

1. Task requires much more emphasis in school.
2. Training less than adequate for task, increase emphasis.
3. Training adequate for task.
4. Training more than adequate for task, reduce emphasis.
5. Greatly reduce or eliminate training for this task.

(You may skip this "Adequacy" rating for a particular task if that task is never performed and you do not feel you can rate adequacy of training for it.)

In making this rating consider such things as the following:

- Problems you may have had performing this task when first required to do it,
- The amount of time that was required by you or others at your unit to bring him "up-to-speed,"

- Whether, for some reason, the task <u>should</u> have been learned on-the-job instead of in school, and
- Whether learning to perform this task in school does not help this man in his present job or will not help him in the foreseeable future.

Your experience in your rating makes you uniquely qualified to judge when job tasks need more or less school emphasis. Not only have you already considered the question of what is the proper balance between school training and training on the job, but you can also see the possible future value of training that has little immediate use. We look forward to seeing your ratings of training adequacy and will give them much consideration.

Although we have already asked you to consider existing school training in great detail, there is one more very important job you can do for us. We need to know what things presently are NOT taught in school but should be taught there. Consider things the trainee has had to learn on the job with much loss of time for both him and his supervisors. Also consider tasks he still cannot perform because he did not learn them in school and because it has not been possible to train him on the job. Please do thi carefully and thoughtfully. As a supervisor of a recent school graduate, you are in a unique position to identify those things which are almost certain to be missing from school.

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

4. _____

_____

_____

APPENDIX J

PROPOSED TRACKS/COURSES FOR INSTRUCTOR TRAINING SCHOOL
(Keys to Figure 5, Page 52)

Key #1 to figure 5

MASTER (CLASSROOM) INSTRUCTOR COURSE (PROPOSED)

The MASTER CLASSROOM INSTRUCTOR course is for the man who likes to teach and delights in mastery of classroom techniques whether conventional/platform lecture/demonstration or as an ILS. The Master Instructor is not to be confused with the proposed Instructional Technologist who designs and writes courses and is effectively out of the classroom. This course would take a second tour instructor (from any field, not just Instructor Basic) and hone him into a "super-instructor." He would be identified as such and the regular quarterly-evaluation by his supervisor would be changed to annual.

It is stressed that he is not to be trained (for this course) in course design and lesson development but will get a full additional measure of the following:

1. Question and answer techniques. Makes full use of the written, verbal question and its teaching/learning implications. Makes full use of the question/answer technique to analyze problem students.

2. Study techniques. Becomes aware of various student study habits, systems, and effective methods.

3. Study assignment. Learns the full use and application of home assignments (homework) and analysis to gain full value from a lesson.

4. Theories of learning, retention, and transfer. He is exposed to various current and new learning and retention and transfer theories and principles.

5. Test construction and analysis. Have sessions with the local test construction and analysis department. Understand more fully the preparation and full teaching value of spot quizzes and other exams. Study in depth the norm-referenced vs the criterion-referenced tests.

6. Evaluation of instructors. Understands the techniques used by other services and educational institutions to evaluate teachers. Is educated as to the values of evaluation in improvement of instruction and in obtaining full use from the CNTECHTRA evaluation forms.

7. Feedback. Is exposed to current and new feedback techniques. Understands their value in improvement of instruction and meeting course objectives.

8. Lecture/demonstrations. Receives advanced techniques of lecture/demonstration and additional practice teaching.

9. Methods of instruction. Expose trainee to various methods of instruction not covered in depth in the Instructor Basic Course such as case study, group procedures, problem solving, incident process, seminar, role playing, brainstorming and panel-form and other current techniques (NAVPERS 93338, 1964).

10. Academic counseling. Especially for those who are being assigned to a self-paced non-platform school. He will be given current and advanced counseling theories, techniques, their value, and how it aids in achieving the course objectives.

11. Audio-visual aids. The best methods of selection, deployment, set up, use, and post questioning to fully use the aids. May opt to attend the (proposed) "Choosing Instructional Delivery Systems" course (described later in this section).

12. Civilian teaching career. On the assumption that the Master Instructor is interested in a post-Navy civilian career in teaching and is typically attending a local university at night enrolled in courses in education, this course will expose him to the various teaching avenues open to him after retirement.

The Master Instructor would be a high step in the career ladder for instructional personnel as defined by Modrick (1975) in increasing order of responsibility: Audio-Visual Aide, Teaching Assistant, Junior Instructor, Support Technician, Media Specialist, Senior Instructor (MASTER INSTRUCTOR), Course Manager, Program Manager.

Key #2 to figure 5

INSTRUCTIONAL TECHNOLOGIST COURSE (PROPOSED)

This proposed course and proposed new NEC have been the subject of correspondence prior to this study (CNTECHTRA ltr Code 3422 of 11 Aug 1972). A renewal of this proposal appears worthy of consideration in view of the increasing trends in converting courses to self pacing, programmed instruction, CAI, CMI, and the general redesign of courses using the systems approach.

Qualifications for Course Entry

Personnel selected for the Instructional Technologist course should be at pay grade E-6 or above and serving a second tour in the school system, unless otherwise qualified for the billet by virtue of civilian education or experience. Experience in either NEC 9501* or 9503* should not be considered qualifying; however, NEC 9506* should be considered an

*NEC 9501 General Instructor, NEC 9503 Physical Training Instructor, NEC 9506 Instructional Programmer.

alternate component since many of the experience elements of these two NEC's appear to coincide.

Course Content

Personnel would receive special training, in addition to previous Instructor Training courses, with particular attention to practical application of the principles of the systems approach, job/task/skill inventory and analysis techniques, training analysis, determination or selection of teaching strategies, design of course materials, publications, aids; design and employment of evaluation systems, with special emphasis upon test construction and analysis, use of feedback information, basic uses of the "scientific method" of research, and basic technical writing and reporting.

A group of courses generally embodying the job environments indicated by NEC's 9502,* 9506, and (proposed) NEC for Instructional Technologist could be assembled as graduated-sophistication course/billet assignment patterns or as one course leading to the new NEC.

A technologist should also be trained in the fundamentals of psychology and human behavior. The Technical Curriculum Development Course (A-012-0031/32) offered at San Diego and Norfolk contains portions of the desired course content prescribed above and would be a worthwhile basis for the establishment of a special course for Instructional Technologist.

Also the Instructional Systems Development (ISD) Technician course #3-AZR/4AST75C00 under development and trial by Sheppard Air Force Base, Texas, is a possible source of information for course development as well as TAEG Report No. 23, Learning Guidelines and Algorithms for Twelve Types of Training Objectives (Aagard and Braby, 1975).

Assignment After the Course

Once trained, Instructional Technologists should be returned to lead schools to fill staff billets involving curriculum development, training research, and evaluation. Assignment should be on the course load basis rather than on the basis of platform instructors. Instructional Technologists should be carried in excess of instructor-student-contact-hour computation for instructor personnel allocation.

Job Duties of the Instructional Technologist at the Lead School

1. Assists in conducting job/task/skill description and analysis, aids in reducing and classifying data.

*NEC 9502 Special Instructor

2. Applies systems approach in design and development of course curriculum materials.

3. Assists in conducting training analysis, determining job/task objectives to be included in course, develops training objectives, course outline.

4. Assists in designing and constructing student performance evaluation system, tests, scoring matrices.

5. Assists in designing and developing curriculum materials: instructor guide, test volumes, student guide, handouts, programmed texts, workbooks, practical exercises, training aids roughs; conducts initial research leading to design and/or procurement of training devices.

6. Assists in conducting other assigned training research, writes reports of studies.

7. Participates in In-Service Training Program, Feedback Program; monitors instruction/instructors, reviews technical documentation, teaching materials, revises training publications.

NOTE: This course differs from the ISD Managers' course (proposed) in that the Instructional Technologist course trains ISD Technicians at the detail working level to do the large scale production under the management of the ISD Managers course graduate.

Key #3 to figure 5

IN-SERVICE TRAINING OF INSTRUCTORS (PROPOSED)

This course is basically patterned after NEDTRA 93338 "USNS In-Service Training of Instructors" and NAVPERS 93338. Whereas these directives are guides for local use and interpretation, it is now proposed that a formal course be established and conducted under the Instructor Training School using these directives as the basic documents.

The proposed course would be to train service school directors, senior education specialists, or others in administrative positions to design and implement effective in-service training to maintain "effective instruction" (NAVPERS 93338).

Objectives would be (1) to give administrators a broad understanding of in-service training and methods of adding variety and interest to the program, (2) to recommend standards by which a school may measure effectiveness ness of its program, and (3) to assist CNTECHTRA in standardizing the in-service programs.

The course is to assist the administrator in designing an in-service program that will accomplish the following:

1. Meet the needs of both new and experienced instructors

2. Improve quality of instruction by training instructors on-the-job to perform their instructing

3. Result in a curriculum that will include: (NAVPERS 93338)

   a. Improvement of Instructional Competence

   b. Improvement of Supervisory Competence

   c. Improvement of Leadership Competence

   d. Improvement of Technical Competence

   e. General Educational Competence

   f. Military Competence for Advancement.

The course would also include assistance in the design of a phase of in-service training that indoctrinates new instructors arriving at a school command in areas of:

1. Welcome by supervisor

2. Pertinent base regulations

3. School/course objectives and philosophy

4. Military advancement/promotional procedures, possibilities, opportunities

5. Local educational courses (college) available and the procedure for applying

6. Local housing/recreational and other social aspects with procedures for obtaining assistance

7. Pairing new instructor with experienced one

8. Detailed outline of the intern break-in period (sitting through the course, assisting regular instructor, teaching his first class)

9. Explanation of instructor evaluation program and the form used and use made of it

10. Certification of instructor to teach unassisted, with ceremony.

Key #4 figure 5

CHOOSING INSTRUCTIONAL DELIVERY SYSTEMS (PROPOSED)

This course will be designed primarily for Senior Education Specialists, Senior Instructors (Supervisors), PI course graduates, and Instructional Technologists (proposed).

The objectives of the course will be to train personnel in identifying and using techniques for choosing cost-effective instructional media in designing or revising a training curriculum. The course would include but not be limited to areas such as (Braby, 1974):

- Learning guidelines for various types of military training
- Choosing media to carry out learning guidelines
- Economic analysis of alternative media choices
- Sample problems.

It is proposed that the media/delivery system selection techniques and accompanying courses being developed by the Interservice Committee on ISD (under contract N61339-73-C-0150) and TECEP (Braby, 1974), be used as a basis for development of this course.

Key #5 to figure 5

INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD) MANAGERS COURSE (PROPOSED)

This course will be designed for course developers (e.g., directors, senior education specialists, supervisors, and other curriculum developers) directly involved in the management of original course planning or writing. The course would provide managers training in the theory and skills required in planning, designing, and developing a course using the systems approach process described in CNTECHTRA Manual CNTT-A10 (1974). (Being replaced by ITRO ISD Model (in press) NAVEDTRACOM 106A.)

The graduate would have satisfied the formal training requirement for eligibility to become an ISD Manager. It is recommended that the ISD Technician course #3-AZR/4AST75C00 under development and trial by Sheppard Air Force Base, Texas, be reviewed for possible application in development of the Navy course.

This course differs from the proposed Instructional Technologist course in that the latter course produces working level technicians. The ISD Managers course is to train a nucleus of managerial personnel in the systems approach technique and differs in scope and the amount of practical application in the curriculum. One option is for the ISD Managers course to be designed as Phase I of the Instructional Technologist course. Another option is for the existing Navy Schools

Management course to be used as a basis for redesign with a new track, "The ISD Manager."

Key #6 to figure 5

TECHNICAL WRITER COURSE (PROPOSED)

There are several Technical Writer courses in existence, both civilian and government. For example, a course offered in Orlando, Florida, is conducted by a community college and is open to Government personnel through the Navy Employee Development Division.

There is probably enough need for this course in at least two locations (San Diego and Memphis, or Norfolk) to warrant it being established on a permanent but infrequent (e.g., 4 times annually) basis. The course could be open to all command employees as well as those directly involved in course writing.

Proposed curriculum topics would include but not be limited to:

- Introduction and writing sample
- Technical style - clarity
- Technical style - conciseness
- Organizational techniques
- Preplanning a report
- Outlining and storyboarding
- Description
- Definition
- Analysis
- Introductions
- Conclusions and recommendations
- Putting together a draft
- Abstracting
- Summarizing
- Writing a technical note
- Writing a memorandum
- Editing and revising
- Writing a progress report
- Writing an article
- Polishing mechanics

This course would lend itself to packaging 50 percent of its curriculum into an individualized, self-paced block of instruction using a combination of PI, sound-slide package, or other techniques.

Key #7 to figure 5

TEAM TRAINING SENIOR INSTRUCTOR (PROPOSED)

This course is for senior instructors or administrators directly involved in developing or modifying course materials for team training and/or instructing in situations that train teams of students (e.g., submarine trainers, flight trainers). Features unique to a team training instructor such as the following would be included in the curriculum:

Scheduling and role recognition
Group reinforcement theory/practice
Assessment of group performance
Development of scenarios and team problems
Modification of scenarios and problems

Further insight into the requirements of a team training instructor may be found in the TAEG Team Training Report No. 18 (Hall and Rizzo, 1975).

APPENDIX K

SAMPLE END OF COURSE EVALUATION FORMS

INSTRUCTOR TRAINING SCHOOL
Education Center
Marine Corps Development and Education Command
Quantico, Virginia 22134

From: Director
To:

Subj: End of Course Evaluation, Instructor Orientation "A" Course

_____ case of _____

Encl: (1) Copy of Certificate of Completion[2]
(2) Mission of Instructor Training School
(3) End of Course Evaluation

1. As indicated on enclosure (1), _____ has completed the Instructor Orientation "A" Course.

2. Enclosure (2) provides the course scope, purpose and a list of the subjects taught during the course. The student's performance during the course is summarized in enclosure (3). It is a two part summary. Part I indicates the student's present performance level for specific instructional tasks. Part II reflects the performance level for his formal presentations. Each student conducted three formal presentations during which his voice, mannerisms and presentations were evaluated.

3. There will be cases where the level of performance is below the mastery level set by the school. This should not be considered an indictment of the new instructor; rather, it should be considered as an indication of the present and temporary level of performance to which he has progressed. We feel confident that there was not one in this class that does not have an aptitude for instructing. However, it is difficult in a relatively short period of time to develop all students to a mastery level in all task areas. It is hoped that the End of Course Evaluation will provide sufficient data to enable you to continue his development as an instructor.

[2] Enclosures (1) and (2) are not included in this appendix.

4. Should there be areas in which you or the instuctor concerned desire assistance in helping him to continue his development, please be assured that the Instructor Training School is available to provide any assistance within its capability.

TAEG Report No. 17

INSTRUCTOR TRAINING SCHOOL
Education Center
Marine Corps Development and Education Command
Quantico, Virginia 22134

END OF COURSE EVALUATION

Student_____ Date_____

1. The end of course performance level is expressed in terms of the amount of supervision that should be provided the new instructor. The supervisory levels are defined as follows:

Supervisory Code	Definition
1.	Reserved for other use.
2.	Will require detailed guidance and close supervison in using correct procedures and techniques.
3.	Will require guidance and supervision, mainly on complicated steps of the operation.
4.	Will require little guidance and supervision even on complicated steps of operation; however, the supervisor will check the end product or final result.
5.	Will perform "on his own" unless special problems are encountered; only a random and occasional check of the end product or final result is required.
6.	Will perform "on his own" even though special problems are encountered; only a random and occasional check of the end product or final result is required.
7.	Reserved for future use.

2. There are three types of entries made in the evaluation matrix which follows:

An asterisk (*) indicates the level reached by the student at graduation. This level was determined by an analysis of all Instructional Analysis Sheets and Lesson Post Tests completed on or by the student.

A number in column 1 indicates the hours of instruction provided for tasks that were not actually performed by the students or measured by the school.

Enclosure (3) to End of Course Evaluation letter

The school's level of mastery is at the "3" level of supervision. This is true of all tasks except those that have hours reflected in column 1.

3. In the "Remarks" section the Faculty Advisor will provide a verbal description of the student; an amplification of strengths and weaknesses.

PART I

Performance Levels for Specific Instructional Tasks

(The school's mastery level is "3")

	Supervisory Level							
	1	2	3	4	5	6	7	N/A
1. Participates as a member of a course content review board?								
a. Participates in a Job Analysis.	_	_	_	_	_	_	_	_
b. Determines Performance Requirements.	_	_	_	_	_	_	_	_
c. Selects applicable performance objectives.	_	_	_	_	_	_	_	_
d. Analyzes Criterion Measures.	_	_	_	_	_	_	_	_
e. Analyzes Learning Objectives.	_	_	_	_	_	_	_	_
f. Sequences Course Content.	_	_	_	_	_	_	_	_
g. Writes Concepts of Instruction.	_	_	_	_	_	_	_	_
2. Writes test items.	_	_	_	_	_	_	_	_
3. Writes learning objectives.	_	_	_	_	_	_	_	_
4. Conducts research to select instructional content.	_	_	_	_	_	_	_	_
5. Sequences instructional content.	_	_	_	_	_	_	_	_
6. Selects, develops and uses the following media during instruction.								
a. Audio Recordings (Disc/Tape)	_	_	_	_	_	_	_	_

	Supervisor Level							
	1	2	3	4	5	6	7	N/A
b. Film, Filmstrips and Slides.	_	_	_	_	_	_	_	_
c. Overhead/Opaque Projections.	_	_	_	_	_	_	_	_
d. Charts, Graphs, Flannel Board.	_	_	_	_	_	_	_	_
e. Television	_	_	_	_	_	_	_	_
f. Other_____	_	_	_	_	_	_	_	_
7. Prepares Lesson Plan (Documents Instruction):								
a. Prepares Concept Card.	_	_	_	_	_	_	_	_
b. Prepares Detailed Outline or Lesson Manuscript.	_	_	_	_	_	_	_	_
c. Prepares Student Outline.	_	_	_	_	_	_	_	_
d. Prepares Student Study Materials.	_	_	_	_	_	_	_	_
e. Other_____	_	_	_	_	_	_	_	_
8. Presents formal instruction:								
a. Conducts rehearsals.	_	_	_	_	_	_	_	_
b. Conducts lectures.	_	_	_	_	_	_	_	_
c. Conducts demonstrations.	_	_	_	_	_	_	_	_
d. Leads group discussions.	_	_	_	_	_	_	_	_
e. Prepares and administers self-paced instruction.	_	_	_	_	_	_	_	_
f. Supervises student application	_	_	_	_	_	_	_	_
g. Conducts remedial instruction.	_	_	_	_	_	_	_	_
h. Other _____	_	_	_	_	_	_	_	_

	Supervisory Level							
	1	2	3	4	5	6	7	N/A
9. Plans revision of instruction based on post-assessment and student feedback.	_	_	_	_	_	_	_	_
10. Responsible for Instructional Television production.	_	_	_	_	_	_	_	_
11. Counsels students on their performance - their progress and problem areas.	_	_	_	_	_	_	_	_

PART II

EVALUATION OF FORMAL PRESENTATIONS

1. Voice	_	_	_	_	_	_	_	_
2. Mannerisms	_	_	_	_	_	_	_	_
3. Presentation	_	_	_	_	_	_	_	_

Remarks:

DISTRIBUTION LIST

Asst Secretary of the Navy (R&D) (Dr. S. Koslow, 4E741)
CNO (OP-987P-7, Capt H. J. Connery; OP-99, M. Malehorn; OP-0987, Dr. R. Smith; R. Stone, Head, RDT&E Plans Division)
CNM (MAT-03424, Mr. A. L. Rubinstein; MAT-031M)
ONR (Code 458, 455)
ONRBO (J. Lester)
COMNAVSHIPSYSCOM (SHIPS 047C; SHIPS 03H, George N. Graine; 340F; 03)
CNAVRES (Code 02)
COMNAVELEX (Code 03)
COMNAVSEASYSCOM (Code 03)
CNET (N-5 (6 copies), N-5A)
CNET Liaison (AFHRL/FTLNN) Williams AFB (CDR Max Quitiquit)
CNETS (N-21, N-213, N-214, Library)
CNTECHTRA (0161, Dr. Kerr; Dr. K. Johnson; Library; 01621, Mr. Griswold; 441, Mr. R. Coolidge)
CNATRA (301, F. Schufletowski)
COMNAVAIRPAC (Mr. Bolwerk)
COMTRALANT
COMTRALANT (Educational Advisor)
COMTRAPAC
COMTRAPAC (Educational Advisor)
CO NAVEDTRASUPPCEN NORVA
CO NAVEDTRASUPPCENPAC
FLETRACEN (LT L. Wilson, Director Instructor/Administration; Code F7D, C. Hoofnagle)
NAMRL (Chief Aviation Psych Div.)
NETISA (Code 00)
CO NAVSUB BASE NLON (Psychology Section)
NAVSUBSCOL (Code 0141, CPO Hudak)
U. S. Naval Institute (CDR R. T. E. Bowler)
CO NAVPERSRANDCEN (Code 02, Dr. Regan (5 copies))
COMNSWC
NAVPGSCOL
Defense Advanced Research Projects Agency, Human Resources Research (Dr. H. F. O'Neil, Jr.)
NETC Instructor Training School Newport (LCDR J. Drylie, Director)
Instructor Training School, (J. J. Fasy, LTJG C. Madlock), SERVSCOLCOM, NTC, Great Lakes
Instructor Training School, (E. Trapp, LT Crawford), SERVSCOLCOM, NTC, San Diego
OIC Navy Management Schools Group (CDR Bustard, Mr. Kissell) NATTC (59), Memphis
Instructor Development Management School, (LT T. R. Land, Mr. G. A. Frego, Jr.) NATTC Memphis
Human Resources Management School NATTC, Memphis (96)
SERVSCOLCOM (CDR Vonwontoch, Dept. Hd., Pers. Management Schools) San Diego

TRADOC (Dr. J. Kanner)
DANTES (Dr. W. A. Gager)
CO NAVTRAEQUIPCEN (N-215, N-22, N-131 (2 copies), N-017, N-00M (3 copies))
Director of Defense Research and Engineering (LT COL Henry Taylor OAD (R&D))
Director, Human Resources Office ARPA (R. Young)
Air Force Office of Scientific Research (Dr. A. R. Fregly)
Director MILMANPWR RSCH (OSADM-RAMR-U, Dr. Ralph R. Canter)
Deputy Director (Personnel) Naval Education Service Ministry of Defence (DNEds) (Capt J. E. Franklin)
Office of the Commander, British Navy Staff (CDR Dow)
Industrial College of the Armed Forces (LT COL Gene Sherron)
HQUSMC (Maj D. Dorman)
CO C&E Schools (LT COL R. Mason, Capt. W. Kemple)
CG MCDEC (Mr. Greenup, LT COL Morris, LT COL Roush)
AIAOS-EDCM (LT COL Carl E. Tadlock), Maxwell AFB
USA Institute of Administration (Mr. A. C. Edmiston, ATSG-EA)
U. S. Army Infantry School (COL Rutherford)
Air Force Human Resources Laboratory, Brooks Air Force Base
Air Force Human Resources Laboratory, Lowry Air Force Base
Headquarters Air Training Command (XPTD, Dr. D. E. Meyer)
School of Applied Aerospace Sciences (Maj Gordon Beack, TTM), Sheppard AFB
School of Applied Aerospace Sciences (Chief, IT Div.), Lowry AFB
ATC/TTSE (Sgt. C. Elliott), Randolph AFB
DDC (12 copies)
Scientific Technical Information Office, NASA
DLSIE (James Dowling)
Director of Acquisitions, ERIC Clearinghouse on Educational Media and Technology (2 copies)
Executive Editor, Psychological Abstracts, American Psychological Association